

BALTIMORE-WASHINGTON PARKWAY
Greenbelt Vicinity
Prince George's County
Maryland

HAER No. MD-129

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1-

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National Park Service
Department of the Interior
1849 C Street, NW
Washington, D.C. 20240

HISTORIC AMERICAN ENGINEERING RECORD

BALTIMORE-WASHINGTON PARKWAY

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LOCATION: Baltimore-Washington Parkway is composed of two linked segments connecting the District of Columbia and Baltimore, Maryland. The nineteen miles of road between Maryland Highway 175 (Jessup Road, near Fort Meade) and the District of Columbia boundary is under the federal jurisdiction of the National Park Service and is the subject of this report. The ten-mile section from Maryland Highway 175 north to Baltimore is under the State of Maryland's jurisdiction.

DATES OF CONSTRUCTION: 1942-1954

PRESENT USE: Baltimore-Washington Parkway is a scenic parkway restricted to passenger vehicles. The road is also a primary commuter route. The parkway serves to connect various federal installations to the District of Columbia.

DESIGN: National Park Service, Public Roads Administration, National Capital Park and Planning Commission

OWNER: National Park Service

SIGNIFICANCE: The federal section of the Baltimore-Washington Parkway was constructed to provide a dignified entrance to the nation's capital. The parkway also provided a new traffic artery that relieved congestion on U.S. Route 1 (Baltimore-Washington Boulevard). The parkway was constructed to connect federal installations, including Fort George Meade and the Beltsville Agricultural Research Center (USDA), to the District of Columbia. The parkway was considered a vital defense road during World War II and the Cold War.

PROJECT

INFORMATION:

Documentation of Baltimore-Washington Parkway was conducted in 1999 by the Historic American Engineering Record (HAER), a division of the National Park Service (NPS), E. Blaine Cliver, Chief. Project cosponsors were the NPS National Capital Region, Terry Carlstrom, Director, and NPS-National Capital Parks-East, John Hale, Superintendent. The project was funded by the Federal Lands Highway Program, Arthur Hamilton, Administrator, through the National Park Service Park Roads and Bridges Program, Lou DeLorme, Manager. Assistance was provided at the NPS National Capital Region by: Richard Quin, Architectural Historian; David Murphy, Regional Adjacent Lands Use Liaison; Charles Borders, Landscape Architect; Norbert Erickson, Cartographic Technician; and Darwina Neal, Chief, Cultural Resource Preservation Services. At NPS-National Capital Parks-East, assistance was provided by: Steven Syphax, Chief of Resource Management; James Rosenstock, Resource Management Ranger; Frank Young, Chief of Maintenance; Tony King, Greenbelt Maintenance Mechanic Supervisor; Robert Hansen, Greenbelt Park Site Manager; Gay Bendocci, Curator; and Karen Taylor-Goodrich, Assistant Superintendent.

The summer 1999 documentation team worked under the direction of Christopher Marston, HAER Project Leader; Tim Davis, HAER Historian; and Todd Croteau, HAER Roads and Bridges Program Manager. The recording team consisted of Francesca Cassara, field supervisor and landscape architect; Lee Albritton and Ana Cabeza, architect technicians; and Tim Simandl, historian. During the summer of 2000, Dawn Duensing conducted additional research and wrote the historical overview. HAER photographer Jet

BALTIMORE-WASHINGTON PARKWAY

HAER No. MD-129

(Page 3)

Lowe produced large format photographs with the assistance of James Rosenthal. Ana Dymek completed the landscape sheet. Michelle Matulac, Katalina Fernandez, and Pete Brooks edited the drawings.

Contents

SIGNIFICANCE	6
DESCRIPTION	9
Context	9
General Description	10
EARLY TRANSPORTATION IN THE BALTIMORE-WASHINGTON REGION .	16
THE CONTEXT OF AMERICAN PARKWAYS	22
Early Parkways	22
Westchester County's Influence on Parkway Design	24
CITY PLANNING IN THE NATION'S CAPITAL	27
PLANNING A PARKWAY	29
Ellicott's National Capital Forest	30
Early Parkway Discussions, 1925-1929	33
Planning the Parkway: 1930-1942	38
DESIGNING THE BALTIMORE-WASHINGTON PARKWAY	51
Initial Funding	51
Topics for Discussion	54
Debating the Issues: Alignment and Parkway Design	55
CONSTRUCTION BEGINS	62
Right-of-way	62
Engineering	63
Design Standards	64
The First Contracts	65
Suspending Construction	67
LEGISLATION	68
Failed Attempts	68
The Final Debate: Congress Approves the BWP	73
Additional Funding	79
CONSTRUCTION	80
Grading and Drainage	81
Paving	85
Bridges	92

BALTIMORE-WASHINGTON PARKWAY

HAER No. MD-129

(Page 5)

Concrete Girder Bridges	96
Steel Girder Bridges	98
Reinforced Concrete Arch Bridges	101
Finishing Touches	104
OPENING THE BALTIMORE-WASHINGTON PARKWAY	106
ADDING INTERCHANGES	109
NPS PROPOSAL TO TRANSFER BWP TO STATE OF MARYLAND	111
Parkway or Freeway?	111
The Impact of Increasing Commuter Traffic	116
PLANNING REHABILITATION	121
Design Problems	121
Structural Problems	125
NPS Design Standards	128
Precast Concrete Barriers	130
1990s REHABILITATION	134
CONCLUSION	137
SOURCES CONSULTED	141

SIGNIFICANCE

This study will consider the Baltimore-Washington Parkway's evolution as a scenic parkway and transportation corridor. Baltimore-Washington Parkway (BWP) was initially conceived as a means of providing a dignified entrance to the nation's capital. The roadway was designed as an alternative to the heavily developed U.S. Route 1 (Washington-Baltimore Boulevard), with its traffic congestion, unsightly billboards, gas stations, and roadside stands. Over several decades of planning, the parkway became important for additional reasons. By the 1930s, the BWP seemed more important as a safe alternative to the notoriously dangerous U.S. Route 1. The parkway was also justified as a connection between federal installations, including Fort George Meade and the Beltsville Agricultural Research Center, and Washington, D.C. By the 1940s, the parkway achieved significance for its military value, a thoroughfare that would connect Washington D.C. to Fort Meade. After World War II, its military value continued in the context of the Cold War and the threat of an atomic attack on the nation's capital. Finally, enabling legislation for the BWP provided that the parkway extend the park system of Washington, D.C. beyond the district boundaries.

The Baltimore-Washington Parkway was among the last parkways constructed as part of the regional Washington, D.C. system. Beginning in 1913 with the Rock Creek and Potomac Parkway, the capital parkway system came to include the Mount Vernon Memorial Highway, George Washington Memorial Parkway, and Suitland Parkway. The Baltimore-Washington Parkway was completed in 1954.¹ The BWP was planned as one of several radial highways and parkways emanating from downtown Washington. The proposed BWP was planned to have connections that made it part of the regional system. At various times, the BWP was proposed to connect to the George Washington Memorial Parkway and the proposed Anacostia River Parkway. It was also intended to join the proposed Fort Drive, an unrealized parkway that was planned to link the

¹ Sara Amy Leach, "Fifty Years of Parkway Construction in and around the Nation's Capital," in *Roadside America: The Automobile in Design and Culture*, ed. Jan Jennings (Ames, Iowa: Iowa State University Press, 1990), 189.

Civil War era forts that encircled Washington.²

As one of the last Washington parkways, BWP blended elements of early twentieth-century picturesque parkway design with the more austere aesthetics of the postwar era. Bridge designs were the most obvious example of the two types of construction. Bridges visible from the parkway had masonry facing that reflected early parkway construction from the 1920s and 1930s, though the designs were considerably less rugged and picturesque. Most of the bridges beneath the parkway and out of the view of parkway motorists, however, were simple, unadorned concrete structures and represented postwar modernity.³ The BWP's engineering geometry and circulation features also placed it firmly in the postwar era. While it retained the traditional parkway's emphasis on providing an attractive motoring environment, with strict prohibitions on roadside development and a curvilinear roadway winding through a protective green corridor, the BWP was clearly designed to function at higher speeds and with greater carrying capacity than earlier parkways. Its curves were longer, its pavement was wider and its grades were more gentle. Expanded sight lines and merging lanes made entering and exiting safer and easier. Like contemporary sections of George Washington Memorial Parkway, BWP had a broad and continuous safety median. The Baltimore-Washington Parkway was a transitional roadway that combined early twentieth-century parkway features with the design elements for high-speed roadways that later became part of the interstate freeway system.⁴

This report focuses on the National Capital Parks and Planning Commission's (NCPPEC) design and construction of the Baltimore-Washington Parkway. The commission's first chairman, Frederic A. Delano, was president of the American Planning and Civic Association until 1935. Delano had

² U.S. National Capital Park and Planning Commission, *Annual Reports* (Washington, D.C.: U.S. Government Printing Office, 1932), 45-48; John Nolen, Jr., letter to Clarence P. Taylor, May 23, 1938, in RG 328, Box 126, National Archives.

³ Leach, "Fifty Years of Parkway Construction," 196.

⁴ Jere Krakow, "Historic Resource Study: Rock Creek and Potomac Parkway, George Washington Memorial Parkway, Suitland Parkway, Baltimore-Washington Parkway" (Washington, D.C.: U.S. Department of the Interior, National Park Service, 1990), 112.

lobbied for the creation of a planning commission for Washington, D.C. He had experience with the Chicago Planning Commission and later with New York City. As the uncle of President Franklin Roosevelt, he could rely on his nephew's support. Also involved with BWP planning was Col. (later Maj. Gen.) Ulysses S. Grant III, grandson of the former president. Grant served as the director of the Office of Public Buildings and Public Parks of the National Capital and later with the NCPPC.⁵

Prominent landscape architects were associated with the NCPPC and BWP's early planning. Frederick Law Olmsted, Jr., had long played an important role in Washington park and parkway development and made many other important contributions to the National Park Service and park and planning matters nationwide. Rising to prominence with the pioneering Westchester County Park Commission, landscape architect Gilmore D. Clarke was one of America's foremost experts on parkway development. In addition to his role in designing parkways in the New York area, he lectured and published widely on the topic and consulted on the Mount Vernon Memorial Highway, George Washington Memorial Parkway, and Baltimore-Washington Parkway projects. Clarke was a member of the Commission of Fine Arts (CFA) from 1932-1950 and served as chairman for the last thirteen years of his term. The CFA was involved with BWP planning and design.⁶ Charles Eliot II, nephew of the noted landscape architect Charles Eliot, was an instrumental figure in the early stages of the parkways' design, assembling one of the first major reports on the proposed project while serving as the NCPPC's first full-time planner.

Thomas C. Jeffers joined the NCPPC as a landscape architect when it was established in 1926. He prepared the initial surveys for the proposed Baltimore-Washington Parkway.

⁵ Frederick N. Zihlman, "History of the National Capital and Work of the National Capital Park and Planning Commission" (Washington, D.C.: U.S. Government Printing Office, 1927), 12, in RG 79, Box 1, National Archives; Frederick Gutheim, *Worthy of the Nation: The History of Planning for the National Capital* (Washington, D.C.: Smithsonian Institution, 1977), 161, 186.

⁶ Gutheim, *Worthy of the Nation*, 186; Sara Amy Leach, National Register of Historic Places Registration Form, September 15, 1990, section 7, p. 4.

During his tenure, he was the principal landscape architect for most of the national capital region's parkway system. His previous experience was with the Olmsted Brothers in Massachusetts and the Office of Public Buildings and Public Parks of the National Capital.⁷

DESCRIPTION

Context

The Baltimore-Washington Parkway (BWP) stretches approximately twenty-nine miles between the city of Baltimore and the District of Columbia. The route approximately parallels U.S. Route 1, running east of that road and Interstate 95. The parkway consists of two sections. The nineteen-mile federal section, the subject of this study, is administered by the National Park Service and runs between the D.C. line and Maryland Highway 175 (Jessup Road) near Fort George Meade. The ten remaining miles of parkway between Maryland Highway 175 and the city of Baltimore were constructed by and are under the jurisdiction of the State of Maryland.

BWP extends northeasterly from the District of Columbia's eastern border, over the Anacostia River, and through Prince Georges and Anne Arundel counties in Maryland. As of 1990, the federal section of the parkway encompassed 1,353 acres. The right-of-way varies between 400' and 800' wide, with a variable width median as narrow as 6' near Washington and as wide as 200' in less-developed areas.⁸ The road passes through or adjacent to numerous federal installations, providing them easy access to the District of Columbia. Along the parkway are Fort George Meade (U.S. Army), the National Security Agency (U.S. Department of Defense), the Patuxent Wildlife Research Center (U.S. Fish & Wildlife Service), Beltsville Agricultural Research Center (U.S. Department of Agriculture), Goddard Space Flight Center (National Aeronautics and Space Administration), Greenbelt

⁷ Leach, National Register of Historic Places Registration Form, section 7, p. 4.

⁸ Leach, National Register of Historic Places Registration Form, section 7, p. 1.

Park (National Park Service), and the U.S. National Arboretum. The dual-lane parkway provides vistas of woodlands, meadows, and marshes as it traverses the gently rolling terrain between Washington and Baltimore.

BWP traverses the western edge of the Atlantic Coastal Plain, on the edge of the Piedmont plateau. Because it skirts two geographical regions and a range of topographical elevations, a variety of habitats and forest types are traversed. Mature hardwood forests, generally oak-dominated, are frequently seen, often with holly and mountain laurel in the understory. Pioneer and second-growth forests, with Virginia pines and scrub species, are common in previously cleared areas. Much wetland habitat is seen, especially in the Patuxent River valley. There is even a small cypress swamp, rare for this far north, near Beck's Branch just south of Beaverdam Road. The entire parkway corridor is a significant natural area, with a surprising abundance of many types of wildlife.⁹

General Description

The Baltimore-Washington Parkway is comprised of two 12'-wide lanes for most of its length. It has 6'-wide shoulders on the outside travel lanes and 3'-wide shoulders along the inside travel lanes. The parkway has 2' wide mountable portland cement concrete curbs along its entire length. There are simulated stone guardwalls constructed of precast concrete along much of the roadway, the median, and on bridge approaches. The road is paved with bituminous concrete pavement and topped with a 3/4" asphalt concrete friction course. There are numerous drainage structures and concrete culverts along the route, some with stone masonry-faced headwalls. Access ramps have a variety of guardrails, including steel-backed timber guardrails, W-beam guardrails, and artificial stone guardwalls.

The BWP begins on the east side of the Anacostia River Bridge on the Washington, D.C. boundary. The parkway's connection into Washington is via New York Avenue (U.S. Route 50). The parkway has three lanes in each direction in the section nearest Washington. Approximately one-half mile

⁹ Information provided by James Rodenstock.

from the District line, the parkway crosses a CSX railroad right-of-way and Kenilworth Avenue. Thousands of feet of artificial stone guardwalls have been installed in the narrow median nearest Washington. Mountable concrete curbs run along the shoulders of both roadways and often have weeds growing in the contraction joints. Despite the urban setting of this section of road, numerous trees indicate to motorists that they have entered the parkway. A Pepsi-Cola bottling plant and Prince Georges Hospital are visible on the east side of the road. Lighting is provided along this section of the parkway.

The parkway passes over an interchange at Maryland Highway 202 (Landover Road).¹⁰ The right-of-way in this section is only 350' wide and heavy development has pressed against the parkway boundary. A highly visible sign announces the Capital Plaza Shopping Center. Artificial stone guardwalls are set in the median.

Approaching the Maryland Highway 450 (Annapolis Road) interchange, about one-quarter mile after Maryland Highway 202, the right-of-way expands to 600' wide. There are artificial stone guardwalls in the narrow median. The bridge over the parkway is original and was rehabilitated during the 1990s. The bridge is a rigid frame, concrete arch structure. Two arches span the parkway and are faced with stone masonry. The arches feature granite voussoirs. The wingwalls and abutments are quoined. The 1990s rehabilitation replaced the steel railings on the bridge parapet and added artificial stone guardwalls at the end of the bridge walls.

Just after the Maryland Highway 450 interchange there is a National Park Service Baltimore-Washington Parkway entrance sign that notifies motorists that the road was dedicated to Maryland Congresswoman Gladys Noon Spellman. The median widens and has stands of trees. The parkway descends on a slight grade and the opposite traffic lanes are not visible

¹⁰ Since highway designations have changed over time, this description employs state highway designations current in 2000. Historic road names in use when the parkway was constructed are provided in parentheses. The historic names are employed in the historical narrative that follows.

through the trees. Motorists experience a feeling of driving through a park, even though the road is within the Washington metropolitan area.

The six-lane parkway narrows to four lanes and the speed limit increases from 45 m.p.h. to 55 m.p.h. Approximately 1.5 miles after Maryland Highway 450, the roadway separates at the Maryland Highway 410 (Riverdale Road) interchange. The identical overpasses are single-span reinforced concrete rigid frame arches of exposed concrete with stone-faced abutments. There are artificial stone guardwalls on both sides of the roadway. The northbound lanes follow the contours of the topography and are at a slightly higher elevation than the southbound lanes. Stands of trees are scattered throughout the median. On the west side of the parkway, housing developments are visible from the road.

The parkway winds through forested areas as it approaches Good Luck Road. Good Luck Road is the southern boundary of Greenbelt Park. The dual motorways are often surrounded by trees and hidden from the view of the opposite lanes of traffic. The Good Luck Road Underpass is original from the 1950s parkway construction. It is a two-span, rigid frame, reinforced concrete bridge, with stone masonry facing the spandrels, wingwalls, and pier ends. The arches have voussoirs and the wingwalls are quoined. Artificial stone guardwalls extend from the abutments and piers.

After Good Luck Road, the parkway passes through Greenbelt Park. The median is wide as motorists drive through the wooded area. Artificial stone guardwalls extend for several hundred feet along the parkway. There is a median turnaround that is approximately 22' wide and surfaced with grasscrete pavers.¹¹

¹¹ Grasscrete actually refers to a specific product by the Bomanite Corporation. The product is described as a "cast-in-place, monolithic, continuously reinforced grass/concrete porous pavement system" used for driveways, parking lots, embankments, and other areas that are normally paved. The concrete is perforated with holes, at a ratio of 47 percent concrete and 53 percent hole, which allows grass to grow in the open spaces.

From www.concretenetwork.com/concrete/grasscrete.html (Accessed June 26, 2002).

At the north boundary of Greenbelt Park is the Capital Beltway (Interstate 95) interchange. These modern steel girder bridges have stone masonry facing on the abutments with steel rails on the parapets. The cloverleaf and diamond-shaped interchanges are lined with W-beam guardrail. Overhead signs indicate the exits for College Park and Baltimore. There are high-rise office towers bordering the interchange.

A little more than one-quarter mile separates the Capital Beltway from the next interchange at Maryland Highway 193 (Greenbelt Road). The Greenbelt Road underpass is a two-span, rigid frame, reinforced concrete structure reconstructed in the 1990s. The wingwalls feature stone masonry. Wildflowers grow in the gore on the north side of the bridge. New trees have been planted in this area. After Greenbelt Road, the median narrows and guardwalls separate the roadways. North of Greenbelt Road is a pedestrian overpass connecting Eleanor Roosevelt High School to the town of Greenbelt.

The median widens and the dual roadways are separated by stands of trees interspersed with occasional grassy areas. In several areas, the grassy median was contoured into a mound so that the opposite roadways are not viewed by motorists. The NASA-Goddard Space Center entrance is just over a mile north of the Greenbelt interchange. The NASA overpass is a modern steel plate girder structure that is out of character with the rest of the parkway bridges. One ramp has steel-backed timber guardrail and another has concrete guardwalls. The overpass is restricted to NASA employees.¹² Occasional lengths of artificial stone guardwall are along the road.

North of NASA, the BWP traverses through the Beltsville Agricultural Research Center. The median remains wide and is heavily forested in many places, creating a "green tunnel" effect that provides a pleasant parkway experience and frames views of distant vistas. About one mile after the NASA overpass is a water tower on the south side of the parkway. The dual roadways then come together on a 30'

¹² The bridge was constructed by NASA and is under NASA ownership.

wide, single-span concrete arch bridge over Beaverdam Road. Approaching the next interchange are hundreds of feet of artificial stone guardwall along the side of the road.

The Maryland Highway 212 (Powder Mill Road) interchange is approximately a mile past Beaverdam Road. The parkway passes over Powder Mill Road on a single-span reinforced concrete arch structure with stone masonry facing on the wingwalls. There are steel-backed timber guardrails on the access ramps. The interchange provides access to the Patuxent Wildlife Research Center Visitor Center.

Immediately south of the next interchange at Maryland Highway 197 (Laurel-Bowie Road), power transmission lines cross the parkway. In some locations, the median is mounded and blocks the view of the oncoming lanes of traffic. The parkway passes over Laurel-Bowie Road, which is approximately 1.75 miles north of Powder Mill Road. During the summer of 2000, the northbound bridge was removed and a new bridge was under construction. Traffic was detoured over the southbound bridge during construction. The original bridges were unornamented, single span (52' wide) reinforced concrete arch structures.

After Laurel-Bowie Road, the grassy median is interspersed with occasional trees. The parkway passes over the Patuxent River bridges as it enters the Patuxent Wildlife Research Center. The twin bridges are five-span structures built with continuous reinforced concrete girders. The parapets are topped with steel rails. The northbound and southbound roadways are separated by guardwalls. The Patuxent River Research Center allows motorists to enjoy several miles of parkway with long vistas through tunnels of trees. The experience is of driving through an elongated park.

The parkway passes under the Maryland Highway 198 (Laurel-Fort Meade Road) underpasses, which were replaced during the 1990s parkway rehabilitation. The layout of these grade separation structures is unique, as they are two separate structures that overpass the divided roadways. The bridges are separated by a slope in the median that rises to the ends of the wingwalls. The interchange provides access to Fort Meade and the National Cryptologic Museum.

The parkway continues through wooded areas as the median widens to 700'. Just after Laurel-Fort Meade Road, the median varies, with some locations planted with wildflowers and a variety of young trees. Some areas of the median have stands of trees. The roadways have independent alignments that follow the topography, with the southbound roadway at a slightly higher elevation. The parkway passes beneath another set of power transmission lines. It then descends on a slight grade and crosses the Little Patuxent River Bridges. Similar in design to the Patuxent River bridges, these two bridges each have five 78' spans formed of reinforced concrete girders resting on reinforced concrete piers to which they are attached by plate bearings or roller hinges. The surfaces of the bridges have cantilevered decks with steel guide rails atop low concrete parapet walls.¹³

Leaving the Little Patuxent Valley, a high-rise building comes into view. A sign declaring "National Business Park," cryptically denotes the entrance for the National Security Agency and Fort George Meade. The exit ramps for Maryland Highway 32 (Annapolis Junction Road) have two lanes and are protected by W-beam guardrail. The Maryland Highway 32 underpasses were replaced in the 1990s. The original steel girder bridges, which also carried Baltimore & Ohio railroad tracks, were replaced with concrete girder bridges that added an extra traffic lane. The two-span structure has wingwalls and piers faced with stone masonry.

The parkway traverses a section of grassy median and wooded roadsides. Here lies the privately maintained National Security Agency underpass, a concrete grade separation structure faced with stone masonry that crosses the parkway. The median is wooded and the roadway presents a pleasant park-like setting. Just over two miles north is the Maryland Highway 175 (Jessup Road) interchange. This is the end of the federal section of the Baltimore-Washington Parkway, and the beginning of Maryland Highway 295, "the Baltimore-Washington Expressway." Near the Maryland Highway 175 interchange, there is a National Park Service entrance sign for southbound motorists. The southbound roadway has a sign announcing that all trucks must exit the parkway.

¹³ NACE Site Survey, August 1999, surveyed by Richard Quin and Kelly Young.

EARLY TRANSPORTATION IN THE BALTIMORE-WASHINGTON REGION

In 1632, King Charles I of England granted land in the Chesapeake Bay region to Cecil Calvert, second Lord Baltimore. Two years later, English colonists, led by Calvert's brother Leonard, founded Maryland's first settlement, St. Mary's City, on the Potomac River. By 1635, Maryland's founders built their economy on growing tobacco as a profitable export crop. In the mid-seventeenth century, colonists relied on boats to conduct business and visit neighbors on the creeks, rivers, or Chesapeake Bay. Roads at that time were paths through the forest marked by thrice-notched trees. Water was the most reliable and efficient means of trade and transportation in the Chesapeake Bay area as it was easier to sail or row a boat than to navigate through the region's woods and tidal marshes. Consequently, settlements were usually within a musket shot of saltwater and grew along the area's navigable waterways. Planters without access to the bay or a navigable river put axles through their hogsheads and rolled them to nearby wharves on what became known as "rolling roads." Waterways encouraged trade, and ports grew at Alexandria, Georgetown, and Bladensburg on the Potomac River. Other ports-of-entry became Elk Ridge Landing (Elkridge) and Ellicott's Mill (Ellicott City) on the Patapsco.¹⁴

During the eighteenth century, roads were constructed to augment Maryland's efficient water routes. Local government roads were built to facilitate the shipment of goods from plantation to port. In 1741, the original section of Baltimore-Washington Boulevard (later U.S. Route 1) was constructed to connect Baltimore to the port of Elkridge. In 1749, the road was extended to Georgetown. In the late 1700s, travelers labeled Maryland's roads as frightful and miserable, the worst in the nation. On steep side slopes, passengers sometimes had to lean out one side of the carriage to prevent it from overturning. The driver would

¹⁴ Robert J. Brugger, *Maryland: A Middle Temperament, 1634-1980* (Baltimore: Johns Hopkins University Press, 1988), 5-6, 8, 16, 22, 56; Maryland State Planning Commission, "Regional Planning--Baltimore-Washington-Annapolis Area," Part IV, 1937, 11-12, in RG 328, Box 126, National Archives.

shout commands, "Now gentlemen to the right" to direct his passengers to assist him in keeping his vehicle upright. Horses had to stop and rest every three miles and drivers often used the stop to quench their thirst with local whiskey. A Frenchman reported that travelers ran the risk of being thrown about at any time due to sharp stones or being tossed into mudholes. The federal government and states did little to facilitate road construction and maintenance, maintaining that such projects were the responsibility of local government. To improve the road situation, private entrepreneurs received charters from the Maryland General Assembly to sell stock, build roads, and collect tolls. By the early 1800s, turnpike companies had constructed roads all over Maryland, often improving existing roadbeds and spending nearly \$10,000 per mile. By 1820, 4,000 miles of toll roads had been constructed in America. A turnpike connected Baltimore to Washington by 1824. Maryland turnpikes were considered amongst the best in the union, built to handle year-round traffic and heavy wagons in bad weather.¹⁵ New roads made stagecoach travel more comfortable for passengers, although shipping freight overland remained slow and expensive. At the height of stagecoach travel, horses were changed every ten to twelve miles and the trip between Baltimore and Washington took five hours.

Water transportation was dramatically improved in the early nineteenth century with the development of steamboats, packets, and canals. Steamboats comfortably carried passengers between stage lines, along coastal waterways, and around the Chesapeake Bay. In 1828, weekly packets carried passengers from Baltimore to as far south as Norfolk, Virginia in twenty-four hours. The most dramatic improvements in water transportation came from the American boom in canal building. Washington profited from the construction of the Chesapeake and Ohio Canal (C & O) that connected Georgetown to Cumberland in western Maryland. Due to technical, legal, and financial problems, the canal was not completed until 1850, by which time the Baltimore and Ohio Railroad had rendered it virtually obsolete. Baltimore

¹⁵ Brugger, *Maryland: A Middle Temperament, 1634-1980*, 153-154, 781; David Goldfield, et. al., *The American Journey: A History of the United States* (Upper Saddle River, New Jersey: Prentice Hall, 1998), 316.

did not benefit from canal transportation, despite talk of a canal to connect the city with the C & O at Georgetown.¹⁶

Railroad mania swept America in the early 1800s and brought about dramatic transportation improvements between Baltimore and Washington. Railroads moved people and products four times faster than a canal boat. Chartered in 1827, the Baltimore and Ohio Railroad (B & O) was the first railway in the United States engaged in the commercial transportation of freight and passengers. The company stock sold out within eleven days, indicating the public support for the venture. Construction began in 1828 even though the value of steam power on a railway had yet to be proven. The B & O charter allowed the company to run on its rails "all machines, wagons, vehicles, or carriages of any description whatsoever." Trials were conducted with a sail-powered railroad car and a horse-operated treadmill that propelled drive wheels for a railroad car. By 1830, the "steam carriage" was invented and demonstrated that it could carry passengers along the rails at 24 m.p.h. The B & O connected Baltimore to Wheeling, Virginia (later West Virginia), and also had a Baltimore to Washington branch that was constructed as far as Bladensburg by 1835. By the 1870s, the Baltimore and Potomac Railroad was built east of the B & O tracks between Baltimore and Washington. New towns grew along railroad rights-of-way, including Laurel and Muirkirk. By 1850, the railroad trip between Baltimore and Washington took two hours and ten minutes.¹⁷

The early twentieth century witnessed several revolutions in American transportation history: the development of the electric inter-urban railway and Henry Ford's mass-produced Model T. During the first decade of the century, a tremendous amount of capital was invested in developing America's inter-urban railway lines. As with the railroads, the Baltimore-Washington corridor was part of this national

¹⁶ Brugger, *Maryland: A Middle Temperament*, 201-203; Chesapeake & Ohio Canal National Historical Park web site, accessed August 21, 2000. The C & O Canal came under the control of the National Park Service in 1938 and was designated a National Historical Park in January 1971.

¹⁷ Goldfield, *An American Nation*, 321; Brugger, *Maryland: A Middle Temperament*, 204-205, 313-314, 783, 785; Maryland State Planning Commission, "Regional Planning--Baltimore-Washington-Annapolis Area," 12.

transportation phenomena. The Washington Baltimore and Annapolis Electric Railway (WB&A) was one of the most important, high-speed, heavily traveled interurbans in the Middle Atlantic States. The system consisted of two distinct parts, with the original main line running thirty-eight miles from Baltimore to Washington. From the main line, trains provided service eastward to Annapolis and westward to Odenton and Fort Meade. The other leg of the system ran directly from Baltimore to Annapolis.¹⁸

The Baltimore-Washington inter-urban railway route was planned as early as 1899. The Pomeroy-Christy group started construction in 1902 and went into receivership before it could finish the project. Most of the system had dual tracks and reportedly cost \$175,000 per mile to build. The southern terminus of the line was originally at 15th and H Streets in Washington, where riders transferred to city streetcars because the WB&A cars were too heavy to run on Washington's streetcar tracks. Not being able to run into the heart of Washington was a serious handicap, as the WB&A was constructed with the intention of providing express passenger service with schedules that competed with the railroads. The WB&A was one of the nation's few interurbans built primarily for limited service. The company ran an express train every half-hour and a local every two hours. Trains originally ran at 66 m.p.h., which was among the highest speeds in the history of the interurbans. The fast speeds were to compensate for the travel time within the cities, which was twelve to fifteen minutes within Baltimore and eighteen minutes in D.C. In addition, commuters spent another twenty minutes riding the local streetcar from the H street terminus into the city center. By 1910, the line switched to cars equipped to run on the District's streetcar tracks and service extended to the Treasury building in Washington.¹⁹

The Washington Baltimore and Annapolis Electric Railway was widely publicized when it was built and became one of the

¹⁸ George W. Hilton and John F. Due, *The Electric Interurban Railways in America* (Stanford, California: Stanford University Press, 1960), 3, 326-327.

¹⁹ Hilton and Due, *Electric Interurban Railways*, 60-61, 99, 185, 326-327.

nation's more profitable lines, with gross annual revenues exceeding \$2.5 million. In the early days of interurban travel, fares averaged about half to two-thirds of the railroad rates. The WB&A provided land to the federal government for construction of Camp Meade, which provided it with a steady flow of military passengers as well as organized troop movements during World War I. The company was hard hit by the Great Depression and went into receivership in 1931. The State of Maryland provided property tax relief in 1934 as the company declined. The tax relief was not extended for 1935, losses continued to mount, and the Washington Baltimore and Annapolis Electric Railway abandoned operations in 1934. The heyday of the electric railway in America was short-lived. Many interurban railways operated at a loss during the 1920s, unable to compete with the increasing popularity of bus systems and personal automobiles. Declining profits were accompanied by accidents, damage claims, and loss of connections or access to downtown areas. Many of the interurban lines suffered from general deterioration during their final years of operation. Most companies abandoned operations during the 1930s, with only a few companies surviving until the 1950s.²⁰

The automobile transformed and dominated American travel in the twentieth century. The first practical American automobile was built in 1893 by the Duryea brothers. During the next decade, a variety of small manufacturers produced automobiles. Henry Ford was favorably impressed by the Maryland, an automobile produced in Baltimore by local craftsmen beginning in 1904. The Crawford Automobile Company of Baltimore produced a sporty "gentleman's roadster." In Havre de Grace, the Burns Brothers built cars between 1908 and 1909. In 1910, the Lord Baltimore Motor Company manufactured trucks that appealed to the region's farmers. These companies helped motorcars become just as popular in Maryland as they were in the rest of the country, increasing from about ten in 1900 to 10,000 in 1914. In the United States, there were approximately 8,000 registered vehicles in 1900 and by 1910, 458,377. The dramatic rise was a result of Henry Ford's introduction of the inexpensive

²⁰ Hilton and Due, *Electric Interurban Railways*, 104, 106, 180, 240-245, 326-327.

but dependable Model T in 1908, and the moving assembly line in 1913. The next year, America produced more cars than horse-drawn vehicles. By 1918, the press noted that Washington was "a whirlpool of automobiles."²¹

The increasing popularity of the motorcar made it apparent that the old "farm to market" routes and turnpikes built during the previous century were not adequate for the new machines. A 1900 study of Maryland roads and bridges found the state's road system inadequate for modern travel and badly in need of repair. About 25 percent of 2,000 miles of main roads still belonged to turnpike companies. Many former turnpikes had been turned over to counties and remained passable. Problems were encountered along county roads in western Maryland with grades as steep as 22 percent. In southern Maryland, many roads were built on ground with a high percentage of clay and had sunk below ground level, with ditches from 5' to 6' deep. Counties around Baltimore had more than a hundred miles of stone-surfaced roadways and about fifty miles of hard-surfaced roads (presumably macadam). Although the report pointed out the need for road repairs and upgrades, most road work continued to be done piecemeal.²²

American roads failed to keep up with the demands of automobilists. Statistics indicated that in 1909 there were 305,950 autos registered in the United States and 190,476 miles of surfaced roads. By 1929, over 23 million registered automobiles cruised America's 660,000 miles of surfaced highways. That twenty-year period indicated a 70 percent increase in the number of registered autos, but only a fourfold increase in road mileage.²³ Maryland's roads were also inadequate, so the state attempted to improve the situation. Maryland was one of the first states to pass a state-aid highway law, doing so in 1898. In 1908, Maryland became the first state to provide for a highway system built and maintained on state authority. Legislators passed a

²¹ Brugger, *Maryland: A Middle Temperament*, 428; Timothy Davis, "Mount Vernon Memorial Highway and the Evolution of the American Parkway," (Ph.D. diss., University of Texas at Austin, 1997), 105-106, 111-112.

²² Brugger, *Maryland: A Middle Temperament*, 428-430.

²³ Gilmore D. Clarke, "Is There a Solution for the Through Traffic Problem?" *Parks & Recreation* 13, no. 6 (July-August 1930): 367.

good road bill, organized a State Roads Commission, and floated \$5 million in bonds for a seven-year road improvement program. The state highway program initiated projects in every county, straightening and regrading roadways, building culverts, digging ditches, replacing bridges, and posting road signs. Technology improved road construction with the use of steam-powered machines. After 1912, concrete replaced stone and asphalt as the standard surface on principal highways. In 1910, the State Roads Commission finished the Baltimore-Washington Boulevard that had been started in 1906. In 1914, Maryland started widening major highways to 14.5'. In 1915, Maryland completed its seven-year state road plan at nearly double the expected cost. By 1929, the number of registered vehicles had risen to 300,000 and there were more than 2,600 miles of "maintained" roads.²⁴

Despite the apparent progress, the increasing number of cars, together with the rising speeds of automobiles, continued to overwhelm America's existing roadways by the 1920s. The spectacle of the world's foremost producer of cars without safe and adequate motorways was, according to historian Timothy Davis, a "troubling reminder of the nation's imperfect and disjointed progress towards modernity, technological prowess, and economic efficiency."²⁵

THE CONTEXT OF AMERICAN PARKWAYS

Early Parkways

The idea for the modern American motor parkway was modeled on European avenues and boulevards. Parkways, sometimes called boulevards or avenues in the United State as well, were broad, tree-lined thoroughfares that linked civic centers to wealthy residential neighborhoods and area parks. American cities such as Boston, Cleveland, Richmond, and

²⁴ Brugger, *Maryland: A Middle Temperament*, 430-431, 790; Thomas H. MacDonald, "The History and Development of Road Building in the United States," *American Society of Civil Engineers* 92, Paper No. 1685 (1928), 1196, 1200.

²⁵ Davis, "Mount Vernon Memorial Highway," 9.

Chicago built boulevards modeled after those in major European cities. The nineteenth-century parkway was intended to provide rest, refreshment, and social intercourse. As such, it was a recreational roadway for riding, driving carriages, and walking, rather than a utilitarian road for everyday transportation.²⁶

With the automobile dominating the American road by the 1920s, some began to question the value of parkways: could one enjoy the scenery from a speeding automobile? Landscape architect Frederick Law Olmsted, Jr. answered the question, emphasizing that beautiful scenery could be appreciated as it rushed by and parkways could still provide a stimulating sense of passing through pleasant places. Olmsted stressed that the appropriate response to automobile speed was to design parkways in a broader and more simple manner, as suggested by his contemporary, Charles Eliot II. Eliot recognized that the automobile changed the focal point of parkway design, noting that it was the view ahead and down the road that was important for this new mode of transportation. He recommended that parkway designers use wider views that had ample space between them. His suggestions for a more careful, simple design included lateral views; elimination of blind corners and intersections; and minimizing of sharp curves and steep grades. He also advised using bridges or overpasses to separate cross traffic, with Central Park as an example. Because the higher speeds of automobiles required greater manipulation of the topography and more extensive use of cuts and fills, Eliot recommended that parkways be designed with independent one-way lanes that followed topography and thus eliminated the need for considerable cuts and fills.²⁷

Although road-building technology advanced in the early twentieth century with the use of oil-based macadam, asphalt, and reinforced concrete, little attention was given to highway design, including alignment, intersections, and landscaping. One of the few design elements of the era was to eliminate curves and achieve the straightest road possible. Roadway landscaping was practically non-existent. The mileage of America's roadways continued to grow with the

²⁶ Davis, "Mount Vernon Memorial Highway," 52.

²⁷ Davis, "Mount Vernon Memorial Highway," 56-57.

infusion of federal aid after 1916, but a number of landscape architects, transportation planners, citizens, and newspapers were increasingly dissatisfied with unsafe and unsightly highways. In general, Americans criticized the uncontrolled development plaguing the nation's highways.²⁸ Problems along America's highways included too much commercial traffic, lack of traffic signals, frontage property rights along the road, parking cars on the highway, dangerous left turns, and an increasing number of registered automobiles.²⁹ Roads in the 1920s and 1930s were the most dangerous in U.S. history in terms of fatal accidents per passenger mile.³⁰

Westchester County's Influence on Parkway Design

Westchester County, New York, provided the answer to the problems of unsightly development and dangerous conditions that dominated America's roadways by the 1930s. Adjacent to New York City, Westchester County experienced the difficult traffic problems that existed on most American highways and successfully solved them by constructing a system of controlled-access parkways. This process began with the Bronx Parkway Commission, which developed the pioneering Bronx River Parkway from 1906-1925. The Bronx River Parkway was widely hailed as the first public parkway with a roadway designed explicitly for automobile traffic. In 1922, the Westchester County Park Commission was appointed and given broad powers to improve the region's transportation system.³¹

The Westchester County Park Commission established parkway design principles that set the standards for motor parkways built during the heyday of parkway construction between the world wars. The park commission began with the premise that commercial and passenger traffic should be separated. As a result, Westchester County parkways prohibited commercial traffic. A major feature established by the commission was

²⁸ Davis, "Mount Vernon Memorial Highway," 58-59.

²⁹ Clarke, "Is There a Solution for the Through Traffic Problem?" 367, 369-370.

³⁰ Davis, "Mount Vernon Memorial Highway," 59.

³¹ Clarke, "Is There a Solution for the Through Traffic Problem?" 367, 370.

a wide right-of-way for separate roadways.³² Wider right-of-ways also resulted in a more park-like character, allowing ample space for landscaping that beautified the roadside and hid objectionable views. Parkways eliminated parking on the road and did not allow frontage rights to adjacent property owners. Bridges and underpasses (grade separations) were used to separate cross traffic, a significant safety feature. Access drives at grade separations provided entrance and egress to the parkways, another element that improved safety. Limited access eliminated the need for traffic signals and dangerous left turns. Later parkways featured improved road alignment that utilized curves of long radii, super-elevated curves, and easement curves or spirals between curves and tangents. Better alignments allowed for higher speed limits. Grades were kept under 6 percent, although steeper grades could be used when necessary. In some instances, wider bridge clearances were used to provide room for future road widening.³³

The Westchester County parkways were praised for their improvements in motorway design. Not only did the roads improve traffic efficiency and safety, they were notable for superior aesthetics. Westchester County Park Commission landscape architect Gilmore D. Clarke elaborated on the importance of cooperation between engineers and landscape architects, stressing that good planning resulted in beauty and utility. Parkway bridges were constructed of reinforced concrete and faced with native stone to make them harmonize with the naturalistic park landscape. Engineers and landscape architects also collaborated on the design of walls, buildings, and lighting standards to make them

³² In contemporary usage, right-of-way refers to the width of the entire corridor devoted to parkway purposes, including the paved surfaces (or surfaces) and surrounding park land. Many parkway designers and planners continue to use the term right-of-way (ROW) in its original sense, but some land managers now prefer the term "parkway corridor" out of concern that the right-of-way designation might make the surrounding greenery appear more susceptible to pavement widening projects. This document employs the historically appropriate nomenclature.

³³ Timothy Davis, "George Washington Memorial Parkway," HAER No. VA-69, Historic American Engineering Record (HAER), National Park Service, U.S. Department of the Interior, 1997, 62; Clarke, "Is There a Solution for the Through Traffic Problem?" 370-373.

complement the finished parkway. Slopes were carefully graded to help the road harmonize with the topography; trees and native vegetation were protected; and additional trees planted for enhancement.³⁴ Some parkway construction projects manipulated the landscape quite extensively in order to produce an illusion of "natural beauty."³⁵

Clarke observed that "good planning" paid, as land values along Westchester County parkways increased beyond all expectations, which more than paid for the cost of the land and construction. He also pointed out that all highways could not be parkways, but that highway planning could borrow many parkway principles. He maintained that public sentiment supported "artistic highway design" and challenged highway designers to incorporate parkway principles. He urged that billboards be eliminated and that improved architectural standards be applied to the "hot dog stands" and gas stations that cluttered the nation's roadways. Clarke urged wider rights-of-way together with legislation to control "ribbon development" and make American highways more efficient as well as attractive. He added that highway engineers should conform road alignments to topography, shorten tangents, and improve curves. Most importantly, he believed that the time had come for highway designers to build separate roadways, one for traffic in each direction.³⁶ Although most highways engineers did not follow Clarke's advice on aesthetic principles, many of the basic roadway design features eventually found their way into mainstream highway development. By providing federal highway engineers with hands-on parkway development experience and allowing the U.S. Bureau of Public Roads to experiment with various strategies for adapting parkway design principles to higher speeds and greater traffic volumes, the Baltimore-Washington and George Washington Memorial Parkways helped set the stage for the limited access interstate highway system begun in the mid 1950s.

³⁴ Clarke, "Is There a Solution for the Through Traffic Problem?" 373, 375.

³⁵ Davis, "George Washington Memorial Parkway," 69.

³⁶ Clarke, "Is There a Solution for the Through Traffic Problem?" 375; Gilmore D. Clarke, "Some Views on Highway Design," *Parks & Recreation* 19, no. 9 (May 1936): 320.

CITY PLANNING IN THE NATION'S CAPITAL

George Washington chose the site for the nation's capital on the banks of the Potomac River between Maryland and Virginia. Washington appointed commissioners to plan and build the city, including Maj. Pierre Charles L'Enfant, a French engineer who became its decisive formulator. L'Enfant, a friend of Washington's who had fought in the Revolutionary War, was an experienced architect with talents in engineering, landscape design, and the decorative arts. In March 1791, he began his reconnaissance of the area's topography and presented an initial plan to President Washington in June. His plan for the city was based on a grid of streets tied together with wide radial avenues. The major radial avenue began at Rock Creek, passed by the "President's House," went on to the Capitol, and ended at the Anacostia River. Thus Pennsylvania Avenue became the city's major avenue. L'Enfant proposed broad avenues 80' wide with 30' on each side for a walk under a double row of trees. The wide avenues would also allow for vistas of the city. He intended for the system of avenues to not only unify the expansive city, but also to direct and promote its rapid development. L'Enfant chose appropriate sites for the major capital city functions, including a district for its monuments and official activities. Landscaping features were incorporated into the city's functional elements, including using the turning basins of the city's canal for reflecting pools and public building grounds for gardens, parks, and promenades. Although L'Enfant worked for the District Commissioners only a year, his basic street plan remained in effect and his ideas established the basis for the federal city.³⁷

By 1900, it became apparent that L'Enfant's plans for the federal city plan had been only partially realized. The 1893 Columbian Exposition in Chicago demonstrated that architecture and civic design could be successfully integrated. The exposition convinced many Americans that their unplanned cities should embark on a plan to establish order and grandeur. In Washington, a committee of civic-minded individuals persuaded President McKinley to support a

³⁷ Gutheim, *Worthy of the Nation*, 2, 16-17, 22, 25-27.

celebration for the capital city's approaching centennial. Upon McKinley's request, Congress authorized a committee to plan the centennial celebration. The McMillan Commission, established in 1901, was named for Michigan Sen. James McMillan, who had served as chairman of the Senate's Committee on the District of Columbia since 1890. The commission planned the centennial celebration, but more importantly, worked to revitalize the magnificent capital planned by L'Enfant. Initially, the commission agreed to focus on reworking L'Enfant's ideas for a "monumental core," namely the White House and the Mall. The commission's work evolved into a plan to improve the city's entire park system and suggest sites for public buildings. Architects Daniel Burnham and Charles F. McKim and landscape architect Frederick Law Olmsted, Jr. were appointed to professionalize the commission's work.³⁸

The McMillan Commission submitted its official report to the Senate Committee on the District of Columbia in January 1902. Just as L'Enfant had conceived of the basic design for the nation's capital, the commission defined modern Washington; according to planner and historian Frederic Gutheim, it "restored, developed, and supplemented" L'Enfant's plans. The report included designs for the nation's Mall, its park system, and its boulevards, drives, and park connections. Olmsted's plan to connect existing parkland and carry the park system to outlying areas addressed the regional character of the capital. The McMillan Commission's proposals for drives and park connections conceptualized the capital's future parkway system. Suggested routes led south to Mount Vernon and north along the Potomac Palisades to Great Falls. Fort Drive was planned to connect old Civil War sites. There would also be a scenic drive from the Lincoln Memorial to Rock Creek Park.³⁹

The McMillan Commission disbanded after issuing its report, although some members continued to serve in an advisory role. Congress did not formally adopt the commission's plan. Without authorizing legislation, it was impossible to carry out the commission's directives. The McMillan

³⁸ Gutheim, *Worthy of the Nation*, 113-114, 118.

³⁹ Gutheim, *Worthy of the Nation*, 122-125, 133.

Commission's influence was apparent as future commissions worked to implement various projects. In 1910 the Commission on Fine Arts (CFA) was established to guide the capital's development along the principles outlined in the McMillan Plan. In June 1924 Congress established the National Capital Park Commission (NCPC) to acquire land for the capital's park system, including areas in adjoining Maryland and Virginia. In 1926, the National Capital Park and Planning Commission (NCPPC) replaced the NCPC and assumed additional advisory powers for planning Washington, D.C. The NCPPC was instructed to implement a "comprehensive, systematic, and continuous development of park, parkway, and playground systems of the National Capital and its environs." Additional legislation in 1929 directed the NCPPC to work in accordance with the L'Enfant and McMillan plans. Under the NCPPC, city planning united architecture, parks, plazas, civic centers, residential areas, and business centers into a comprehensive urban design. With this design philosophy, Washington became one of the nation's premier examples of the City Beautiful urban reform and planning movement that flourished in the early twentieth century.⁴⁰

By the 1920s, the entries to Washington, D.C. were lined with billboards, "hot dog stands," and cluttered development. The NCPPC looked to the Westchester County parkway system as a model example for planning dignified entrances to the nation's capital, including the Baltimore-Washington Parkway. Westchester County parkways also served as a model by which the NCPPC could extend the regional planning for Washington, D.C. Over a period of more than twenty years, the National Capital Parks and Planning Commission developed the Baltimore-Washington Parkway. Gilmore Clarke was a consulting landscape architect during the early planning stages of the BWP. During the latter stages, the NCPPC cooperated with the Bureau of Public Roads and the National Park Service.

PLANNING A PARKWAY

⁴⁰ Zihlman, "History of the National Capital," 8; Gutheim, *Worthy of the Nation*, 132-134.

Ellicott's National Capital Forest

One of the earliest proposals for the open space between Baltimore and the District of Columbia was presented by Baltimore architect William M. Ellicott. In 1910, Ellicott suggested that the federal government acquire land to create a national capital forest for demonstration plots and experiments. Such a forest, Ellicott opined, would be a "fitting background," to the capital and "worthy of the dignity of the nation's seat of government." He emphasized that it "would give continuity and variety to the impression gained from the magnificence of buildings, boulevards and monuments of the city proper." He recommended 41,000 acres of land between D.C. and the Patuxent River as an appropriate acquisition, as well as 16,000 acres near Laurel, and another 43,000 acres that reached towards Annapolis.⁴¹

Ellicott elaborated on the importance of a national capital forest, pointing out that western states enjoyed the benefits of federal lands and that the East should have the same opportunity. Although Ellicott was pleased with plans for reserves in the Appalachian Mountains, he observed that those areas were too remote and inaccessible for the vast majority of citizens. He also added that Americans could learn from the Europeans, who had denuded many of their forests. Protecting the forest near Washington could benefit the local population, according to Ellicott, by adding "vigor and zest of life." Ellicott envisioned a forest that would be the "glory of the nation's capital." A national forest would offer urbanites, he predicted, "every form of sylvan pleasure which the inheritance of past ages can suggest from periods when the joy of life and pleasure in beauty went hand in hand." This forest "pleasure ground" would be rendered accessible by intersecting allees and roads that some day would, in Ellicott's opinion, "rival the most splendid examples of formal landscape design of the old world."⁴² Ellicott's plans laid the basis for the future Baltimore-Washington parkway.

⁴¹ William M. Ellicott, "A National Capital Forest," with F. W. Besley, "A Report on the Washington Forest," reprint from *American Forestry*, June 1910, 4, in RG 328, Box 126, National Archives.

⁴² Ellicott, "A National Capital Forest," 4-5.

After World War I, Ellicott presented a revised proposal for a national forest. He reported that prior to the interruption of war, his national forest concept had been well-received by numerous organizations, including the American Society of Landscape Architects, the American Institute of Architects, the American Forestry Association, and the American Civic Association. In addition, President Woodrow Wilson spoke favorably about the project.

Ellicott's 1921 revised plan proposed that the national capital forest be a "national war memorial" to commemorate the gallantry of U.S. servicemen. He suggested that the forest might include monuments erected to military units and trees planted in memory of individual soldiers. Ellicott envisioned that memorials would grace a "splendid avenue" to the capital.⁴³ His plans included boulevards or parkways that passed through or along the boundaries of the proposed reservation to connect Washington, Baltimore, and Annapolis. There would be other roads, as well as bridle paths and trails.⁴⁴

After World War I, Ellicott's original "comparatively simple proposition" expanded to include numerous other suggestions: reclamation of wasteland; agricultural demonstration farms; an "insurance city" to care for war veterans; development of towns and villages that harmonized with the forest and alleviated urban housing conditions; biological study and game protection; an arboretum; reforestation; campgrounds; facilities for training Forest Service "troops;" and a Greek theater. Ellicott proposed that the federal government develop the project. He estimated that 70,000 to 100,000 acres could be purchased for \$3 to \$4 million.⁴⁵

Similar ideas for a reserve in Maryland were proposed by Baltimore Mayor James A. Preston, who stated that the idea for a national park between Baltimore and Washington had been discussed for a number of years. Preston, like Ellicott, noted that the western states enjoyed all the benefits of federal land and stated that it was an opportune

⁴³ Ellicott, "A National Capital Forest," foreword.

⁴⁴ William M. Ellicott, Report of American Society of Landscape Architects on National Forest and Regional Plan, Washington, D.C., February 1920, Revised 1921, 1, in RG 66, Box 27, National Archives.

⁴⁵ Ellicott, Report of American Society of Landscape Architects, 1-2.

time to establish a park in Maryland, since land could be purchased on good terms. Preston, too, suggested that a park could be established as a memorial.⁴⁶ In June 1919, Washington's Commission on Fine Arts (CFA) passed a resolution in support of a "National Victory Memorial Forest and Park." The CFA favored a new national park as it was appropriate for the nation's capital (western states had numerous parks), and it would be a fitting tribute to those who fought in World War I. The park would, of course, be for pleasure and serve as a useful demonstration forest.⁴⁷

Ellicott's plan received public attention in 1922 after he convinced the Southern Maryland Society to promote and encourage local interest in the national forest proposal. Ellicott recruited CFA assistance in organizing interested parties and recommended that his proposal be presented as a means to introduce regional planning for the area. The CFA and Southern Maryland Society arranged a meeting, inviting the USDA, the Board of Commissioners of the District of Columbia, the U.S. Army Corps of Engineers, and landscape architect Frederick Law Olmsted, Jr. Ellicott also pointed out that the War Department was interested in the area, although it was not formally invited to participate. The CFA urged the Washington Commissioners to attend, noting that the District was "overleaping its boundaries so fast" that not only was it desirable to consider outlying parks, but more importantly, the development of highways. The CFA even suggested a new 16th Street entrance to the city.⁴⁸ The January 1922 meeting was well attended by numerous agencies from the Baltimore and D.C. areas, all of which enthusiastically supported Ellicott's plan for a regional forest/park between the two cities. The term "parkway" was introduced to the public in a newspaper article that

⁴⁶ James H. Preston, Mayor of Baltimore, letter to Charles Moore, Commission of Fine Arts, April 12, 1919, in RG 66, Box 27, National Archives.

⁴⁷ Resolution of the Fine Arts Commission, June 6, 1919, in RG 66, box 27, National Archives.

⁴⁸ William M. Ellicott letter to Charles Moore, December 26, 1921; W. H. Wooton, Southern Maryland Society, letter to H. P. Cammerer, January 20, 1922; Charles Moore to Cuno H. Rudolph, January 5, 1922, in RG 66, Box 27, National Archives. A CFA letter seemed to suggest that Ellicott's recommendation to introduce a regional plan was a new idea in the Washington area.

mentioned Ellicott's proposal for "road cities clear to Baltimore" within a regional park.⁴⁹ Consideration of Ellicott's plan in the early 1920s appeared to have been most significant in that it started discussions for a parkway. His proposal for a national forest was briefly revived in the 1930s.⁵⁰

Early Parkway Discussions, 1925-1929

By the mid 1920s, publicity about a proposed Baltimore-Washington Parkway (BWP) generated serious discussion amongst regional newspapers, organizations, and prominent citizens. Early debate about the potential parkway demonstrated the influence of Westchester County parkway design principles. James Greenleaf, who served as the landscape architect member of the CFA from 1918 to 1927, attended a talk by Jay Downer, chief engineer of the Westchester County Park Commission. Based on Downer's comments, Greenleaf urged the CFA to support a Baltimore-Washington route that was constructed on "virgin territory" rather than along an old road alignment. Downer maintained that it was poor policy to follow existing roads in establishing new parkways. He explained that purchasing land for road widening along a developed right-of-way was difficult and expensive. New rights-of-way were also preferred as a way to control the rights of access and delegate truck and local traffic to the old road. Downer asserted that properly developed parkways constructed on new rights-of-way enhanced land values and tax revenue. Col. C. O. Sherrill of the National Capital Park Commission (NCPC) found this idea appealing and suggested that property owners might dedicate the land without cost since they would accrue

⁴⁹ "D.C. to Baltimore Park is Supported," [Washington Star, January 26, 1922]; "Intercity Forest Project is Advanced by Society," [Baltimore American, January 26, 1922], in RG 66, Box 27, National Archives. Many of the newspaper clippings cited in this report had no information concerning the newspaper name. Most clippings were stamped with a date and some had a handwritten title for the newspaper. The clippings for which a date and newspaper name could not be absolutely established are noted by brackets around the name and/or date.

⁵⁰ Ellicott correspondence, in RG 66, Box 27, National Archives.

the benefits of property appreciation.⁵¹

Greenleaf also reported that Downer defined a parkway as a narrow park with varying width, through which a single or dual roadway traversed naturally over the topography. He emphasized that it was not a wide boulevard of uniform width with rows of trees on each side. A parkway varying in width from 100' to 1,000', with an average width of 300', was emphatically supported by Frederick Delano as "just the sort of thing that we ought to have to connect the great city of Baltimore with the Federal Capital." Delano, president of the American Civic Association, also agreed that a new right-of-way was imperative.⁵²

Sherrill provided an early vision of the BWP that incorporated Westchester County parkway features suggested by Greenleaf and Delano. He agreed with Delano on a wide right-of-way, maintaining that it was necessary for parking, future road widening, and adjacent drives. He wanted a parkway to connect residential sections, be confined to passenger vehicles, and accommodate "light traffic." The road would not allow railroads or roads to cross. Sherrill envisioned an alignment that provided not only scenery, but also access to historical sites. To enhance the scenic value, the alignment would highlight the forested valleys and numerous river branches between Baltimore and Washington. Long curves would be used when possible and the road would follow the contours of the land in order to maintain reasonable grades. He emphasized, "the beauty of this boulevard would be greatly heightened by not constructing it especially for speed purposes." Sherrill's declaration appeared contradictory, as he also stated that the new parkway would be a high-speed road that cut travel

⁵¹ "James L. Greenleaf, A Minute on his Life and Service," *Landscape Architecture* 24, no. 1 (October 1933): 2; James L. Greenleaf to Charles Moore, June 9, 1925; Sherrill to Delano, October 1, 1925; Sherrill to Victor H. Power, *Manufacturers Record*, October 13, 1925, in RG 328, Box 126, National Archives.

⁵² James L. Greenleaf, letter to Charles Moore, June 9, 1925; Frederick A. Delano, letter to Colonel C. O. Sherrill, September 30, 1925, in RG 328, Box 126, National Archives.

time between the cities by half.⁵³

During the initial discussions, parkway advocates justified why the parkway should be built. The most obvious reason for a new route between Baltimore and Washington was to relieve the area's congested traffic situation. In 1925, Sherrill stated a road "would soon be necessary." The *Manufacturers Record*, a Baltimore publication, reported that England was building a 226-mile highway at a cost of \$325,000 per mile. The article maintained that it was time for the United States, with more than 85 percent of the world's automobiles, to consider a plan for relieving its traffic congestion. It continued by highlighting the proposed BWP as a solution to congested highways. The publication's vice-president, Victor Power, corresponded with Sherrill frequently during the 1920s, expressing his keen interest in the proposed BWP. Power was perhaps the first person to suggest that the parkway could serve as a "sort of beautiful entry into Washington." Curiously, Sherrill did not comment on this idea in his reply to Power, choosing instead to emphasize that the public did not fully comprehend the impact of the tremendous number of cars on the road system and the need for a new road. Others also suggested the need for a more pleasing entry into the nation's capital, including the American Institute for Architects, which noted that the northerly approach to the city was unattractive. Milton Medary, an architect who served on the NCPPC, also favored the parkway as an improved entry into the nation's capital.⁵⁴

William Ellicott most likely suggested the first ideas concerning the military significance of the proposed road.

⁵³ C. O. Sherrill, letter to Frederic A. Delano, October 1, 1925; C. O. Sherrill, letter to Victor H. Power, October 23, 1925; "The Public Not Yet Awake to Full Needs of Highway Expansion," *Manufacturers Record*, November 26, 1925, in RG 328, Box 126, National Archives.

⁵⁴ C. O. Sherrill, letter to *Manufacturers Record*, September 30, 1925; "A \$73,000,000 Highway in England Suggests a Pace for America," *Manufacturers Record*, October 8, 1925, 59; Victor Power, letter to C. O. Sherrill, October 8, 1925; Sherrill, letter to Victor H. Power, *Manufacturers Record*, October 13, 1925, in RG 328, Box 126, National Archives; Report to Baltimore Chapter A.I.A. by its Committee on National Capital Regional Plan, May 27, 1936, in RG 66, Box 27; Leach, National Register of Historic Places Registration Form, section 7, p. 5; Gutheim, *Worthy of the Nation*, 196.

BALTIMORE-WASHINGTON PARKWAY

HAER No. MD-129

(Page 36)

He realized that the War Department might be interested in a parkway to serve Camp Meade. He added that the military might be sufficiently engaged in the plans to donate a right-of-way, along with incidental parks and forests. Finally, in an apparent prediction of the interstate highway system, the governor of Colorado voiced his support for the BWP, maintaining that the United States should connect major cities with highways, just as the parkway proposed to do.⁵⁵

Early enthusiasm for the BWP was countered by initial opposition to the project from Maryland's State Roads Commission Chairman, John N. Mackall. Mackall misinterpreted Sherrill's comments, believing that the roadway, not the parkway, would be 300' wide. He viewed the project as impractical and ridiculously expensive at \$500,000 per mile. He charged, "to simply build a road 320' wide for the purpose of having another road to Washington would serve no utilitarian purpose at all commensurate with the cost." He accused parkway enthusiasts of wanting to spend money to "gratify their own vanity." Mackall's alternative, if funds were available, was to purchase a new right-of-way a half mile wide and build an "adequate" highway. The State of Maryland could then develop and dispose of the land to help pay for the road. He expected that this plan would not be popular, as taxpayers would oppose the state getting into real estate development. Mackall also disliked the BWP project as he believed that Sherrill intended to shift the burden of parkway costs to Maryland, which would incite tremendous opposition. Sherrill was surprised at Mackall's remarks, finding it hard to believe that the comments came from "a man supposed to be highly qualified in highway matters."⁵⁶

Victor Power served as an intermediary in settling the misunderstanding between Sherrill and Mackall. He clarified the parkway proposals to Mackall and explained that there were four government agencies that could help pay for the

⁵⁵ William M. Ellicott, letter to C. O. Sherrill, October 21, 1925; Clarence J. Morley, letter to John Cady, *Manufacturers Record*, October 20, 1925, in RG 328, Box 126, National Archives.

⁵⁶ J. N. Mackall, letter to V. H. Power, October 29, 1925; C. O. Sherrill, letter to Frederic A. Delano, October 1, 1925, in RG 328, Box 126, National Archives.

BALTIMORE-WASHINGTON PARKWAY

HAER No. MD-129

(Page 37)

road. Mackall eventually accepted a modified version of a parkway in 1928. His parkway concept would be a state project, free of commercial traffic, with a 60'-wide right-of-way.⁵⁷

Several years after Ellicott's recommendation, the War Department joined the list of BWP supporters and acknowledged the benefits of the proposed parkway. It expressed interest in a possible connection between Fort George Meade and Fort Washington as part of a capital parkway system. In September 1929, it informed the National Capital Park and Planning Commission that it was contemplating whether to prepare legislation to authorize rights-of-way and construction for such roads. Brig. Gen. L. H. Bash inquired whether the War Department plans would work with NCPPC plans for road improvements in the Washington area. He estimated that the Fort Meade section from Laurel would cost \$224,000 and requested that the commission inform him of their latest plans and timetable.⁵⁸

The earliest plans for a Baltimore-Washington Parkway were prepared in 1927. Charles Eliot II, the NCPPC's planner, prepared a map of the "Baltimore Camp Meade Parkway" and described a possible alignment in a preliminary report on the national capital park system. Eliot's parkway entered Washington via the Anacostia River Park and East Capitol Street. From the D. C. line, the route ran through the Indian Creek and Eastern Branch valleys along river frontage to Bladensburg. After crossing Bladensburg Road, the parkway followed along the Indian Creek Valley, traveling east of College Park, Berwyn, and Hollywood. Near College Park, Eliot observed a fine knoll of oak trees that rose above the confluence of the Paint Branch and Indian Creeks and provided fine views of Washington. He explained that development near Berwyn required that the parkway be narrowed to no wider than the creek banks. The road then left Indian Creek and ran to Beltsville, traversing the western boundary of the "U.S. Experiment Farm" before heading on to Camp Meade. Near Camp Meade, the route

⁵⁷ "New Washington Road Predicted" [probably from a Baltimore newspaper in June 1928], in RG 328, Box 126, National Archives.

⁵⁸ L. H. Bash, memo to National Capital Park and Planning Commission, September 27, 1929.

traversed east of the Patuxent marshes, which Eliot noted were of botanical interest. He mentioned that a number of routes could be studied between Camp Meade to Baltimore.⁵⁹

The NCPPC annual reports from 1928 to 1930 emphasized the desirability of radial highways from Washington, as well as cross-connections and intercity highways. In 1929, Grant, now executive officer of the NCPPC, affirmed the Baltimore-Washington Parkway's importance, claiming that a direct connection with metropolitan neighbors Baltimore and Richmond were "of first and special interest."⁶⁰

Since the NCPPC had no authority beyond the D.C. boundaries, it was necessary to obtain cooperation from agencies in Maryland in order to bring the BWP to successful completion. In 1927, the Maryland legislature established the Maryland National Capital Park and Planning Commission (M-NCPPC), which had planning authority in Prince Georges County and Montgomery County adjacent to Washington. The M-NCPPC served as a coordinating agency to the NCPPC. It had the power to acquire land in the public interest, impose taxes to pay for park acquisitions, and propose zoning ordinances.⁶¹ Consequently, the M-NCPPC became an essential agency in planning and developing the Baltimore-Washington Parkway.

Planning the Parkway: 1930-1942

In 1930, Congress passed the Capper-Cramton Act, which provided \$16 million for parkland acquisition in the greater Washington metropolitan area. The legislation provided a means to extend the District of Columbia's federal park system into a regional park system, with appropriations for the George Washington Memorial Parkway, Rock Creek Parkway, and Anacostia Park.⁶² The Capper-Cramton Act encouraged the NCPPC, whose members recognized that land acquisition could

⁵⁹ Charles W. Eliot II, "Preliminary Report, Park System for the National Capital Washington Region, National Capital Park and Planning Commission, Prepared in Accordance with Program of Work Adopted August 1926," February 1927, 12-13, in RG 79, Box 4, National Archives.

⁶⁰ U.S. National Capital Park and Planning Commission, *Annual Reports* (Washington, D.C.: U.S. Government Printing Office, 1927-1930).

⁶¹ Gutheim, *Worthy of the Nation*, 206-207.

⁶² Gutheim, *Worthy of the Nation*, 198, 206.

make development of the Baltimore-Washington Parkway possible. In June, U. S. Grant III asserted that passage of the bill indicated that the federal government was ready to do its part in capital region projects, but noted that Baltimore and Maryland would have to do their part as well. Grant believed that the BWP provided a great opportunity to build a parkway similar to the Bronx Parkway. He envisioned a thoroughfare that followed the Anacostia River and its tributaries as it made its way towards Baltimore. Grant enthused, "such a parkway would be a source of delight to a great many people and I believe of economic benefit to the country it would cross, just as the Bronx Parkway has done great things for Westchester County."⁶³

By the early 1930s, the need for a parkway between Baltimore and Washington was becoming more apparent. First, as the agency committed to the aesthetics of the national capital, the NCPPC was concerned with the city's entries. A highway survey indicated the "seriousness of the billboards situation," reporting that there were 1,099 signs along twenty-eight miles of U.S. Route 1. The NCPPC envisioned that "dignified portals, plazas or parks might some day occupy strategic locations of the main highways entering the city." Gilmore Clarke, now chairman of the Fine Arts Commission, called for parkways to replace the city's "ugly and sordid traffic arteries." He pictured a Washington that was approached by a parkway from every direction and encouraged citizens to support the concept. He claimed there was "hardly a more indecent approach to a great capital in all the world than the approach to Washington from Baltimore over United States Route 1."⁶⁴

Secondly, it was becoming increasingly clear that U.S. Route 1 was inadequate for the traffic it handled. The highway carried twice as many vehicles as was considered safe and was cluttered with intersections, private driveways, and businesses that contributed to unsafe conditions. Three

⁶³ U. S. Grant III, letter to William M. Ellicott, June 21, 1930, in RG 328, Box 126, National Archives.

⁶⁴ U.S. National Capital Park and Planning Commission, *Annual Reports*, 1931, 82-83; Gilmore Clarke, "D.C. Need of Modern Parkway Cited by Fine Arts Chairman," [Sunday Star, June 5, 1938], in RG 328, Box 126, National Archives.

hundred commercial establishments, nearly one every 500', were situated along the road. Nearly half the fatalities on the three major arteries in the Baltimore-Annapolis-Washington region happened on U.S. Route 1. Authorities did not expect the situation to improve. The Maryland State Roads Commission estimated that the next ten years would bring a 60 percent increase in registered automobiles. Planners concluded that "some change in present conditions" was necessary.⁶⁵

In response to these problems, the NCPPC prepared "definite proposals" for the BWP in 1932. The commission considered the parkway to be an extension of the "plan authorized by Congress," presumably the Capper-Cramton Act, and a logical extension of the Anacostia Park. The proposed parkway would proceed up the Indian Creek valley from Anacostia. In 1932, landscape architect Thomas Jeffers prepared preliminary reports on the "Baltimore Parkway." His reports stated that the parkway's purpose was to attract passenger vehicle traffic away from U.S. Route 1, leaving the old highway to bus and truck traffic. He claimed that in order to draw passenger traffic, the parkway would have to be a high-speed road in "as direct a line as possible," with large radius curves and a minimum number of highway crossings. His early proposals recommended that border roads be constructed to intercept minor streets and divert the traffic from those streets to major highway crossings.⁶⁶

Jeffers' preliminary reports divided the parkway into four sections. Plans for Section 1 were approved by the NCPPC in March 1931 and ran from the D.C. line to Bladensburg. Section 2 extended from the Defense Highway at Bladensburg to the Beltsville Agricultural Research Center. Section 3 stretched between Beltsville and the northwest corner of Fort Meade. Section 4 apparently was the Camp Meade area. Jeffers' preliminary plans suggested routes, recommended

⁶⁵ Maryland State Planning Commission, "Regional Planning--Baltimore-Washington-Annapolis Area," Part IV, 1937, 43, in RG 328, Box 126, National Archives.

⁶⁶ John Nolen, Jr., letter to Sam Lauver, May 17, 1937, in RG 328, Box 126, National Archives; Thomas C. Jeffers, Preliminary Report on Baltimore Parkway, Section 2, September 16, 1932, 1, in RG 79, Box 11, National Archives.

rights-of-way, and considered the benefits of the various alignments.⁶⁷

The Section 2 plan described a route that traveled along the west side of Indian Creek for most of its distance, with two possible alternatives for the northern and southern ends of the section. Jeffers noted that the alignment proposed in "Plan A" was saddled with considerable development in the area of the Defense Highway, including a concrete block factory, gas station, laundry, and other businesses. He recommended acquiring some of these establishments, many of which were in poor condition. He also suggested "cleaning up" the buildings between the railroad and Peace Cross in order to open a vista of the parkway to cars approaching from Washington on U.S. Route 1. Between Defense Highway and Riverdale, he noted that it would be necessary to carry the road over a creek five times in order to achieve a good alignment. Jeffers maintained that Plan B's advantage was that the first part crossed through less-developed areas and would require fewer property acquisitions. Unfortunately, this route had a less direct alignment and sharper curves. As a result, Jeffers favored Plan A in this area, even though it was more developed. There were several notable features of the alignment along Indian Creek. Just past the University of Maryland's property, Jeffers noted a hill approximately 90' high, the highest elevation along the route. He suggested the hill might be a suitable location for a restaurant, with cabins, a playground, and picnic grounds at the base of the hill. North of Branchville Road, a gravel quarry was recommended as a potential site for a recreational lake. At this point, Plan A left Indian Creek and followed Beaverdam Creek to the Beltsville area. This part of the route was recommended by Jeffers because he considered it more direct and probably more economical. His other alternative routed the parkway along Indian Creek as far as Muirkirk, where the road then curved east towards Fort Meade. This plan was less direct and passed through a

⁶⁷ Jeffers, Preliminary Report on Baltimore Parkway, Section 2, 1; Jeffers, Preliminary Report on Baltimore Parkway, Section 3, October 21, 1932, 1, in RG 79, Box 11, National Archives. Plans for Section 1 and Section 4 were not located.

highly developed area.⁶⁸

Jeffers presented the NCPPC with the Section 3 preliminary plan in October 1932. Section 3 carried the road approximately 1.25 miles up Beaverdam Creek, where it left the creek and crossed the USDA's experimental farm. Jeffers noted that the parkway would cross about 1.5 miles of USDA land, an area that was heavily wooded and not being used. Although the right-of-way averaged 300' for most of Jeffers' route, Jeffers widened it on the USDA property so that it would include park-like features. Past the USDA boundary to Muirkirk Road, the right-of-way was narrowed again to 300'. Just after Muirkirk Road, Jeffers found a large abandoned house that he suggested might be restored and used as a restaurant. Between Muirkirk and Bowie Roads, the right-of-way was wider in order to include some of the attractive woods in the area. After Bowie Road, the right-of-way expanded to .75 miles wide in order to include all of the low-lying marsh along the Patuxent River. The road then crossed the river and traversed along the east bank to the vicinity of the Laurel racetrack, where a minor road would provide access to the parkway. In this area, the right-of-way included both banks of the river as far as the B & O Railroad tracks in Laurel. From the road junction near the racetrack, the right-of-way narrowed to 300' for about a mile, then gradually widened again to include the woods at the Little Patuxent River. Jeffers' recommended that these woods could easily be converted into a picnic area, with open spaces used for baseball and other games. He also advised that the river's opposite shore be restricted. From the woods, the parkway would enter the District of Columbia Training School for the Feeble Minded and pass along the northeast river bank, which was the farthest point from the school. Jeffers advised that no trees be cut nor buildings constructed along the northwest river bank near the school. After the school, the road crossed the Washington Baltimore & Annapolis Railroad and another road before entering Fort Meade.⁶⁹

With the preliminary plans completed, the NCPPC took a

⁶⁸ Jeffers, Preliminary Report on Baltimore Parkway, Section 2, 2-3; Jeffers, Preliminary Report on Baltimore Parkway, Section 3, 1.

⁶⁹ Jeffers, Preliminary Report on Baltimore Parkway, Section 3, 1-2.

significant step forward when it secured USDA support for the BWP. In 1933, Jeffers had learned that the USDA would be improving the Beltsville farm and planned to use its land more intensively. Consequently, he met with USDA officials and requested that the agency prepare a comprehensive plan for the farm and locate new buildings away from the proposed parkway. The USDA responded favorably, asking for NCPPC staff assistance with its development plans. Collaboration, however, was not an immediate success. An NCPPC representative was alarmed when he visited the dairy farm at Beltsville and observed a grove of trees being cut. Arno B. Cammerer, NCPPC Executive Officer, immediately notified the USDA Assistant Secretary that its action was an "irreparable loss" to the parkway. He noted that the USDA Bureau of Animal Husbandry was cooperating in the BWP project and pleaded that the Dairy Bureau cooperate before further damage was done. Jeffers met with the chief of the Dairy Bureau, commented that he seemed "kindly disposed" towards the parkway, and received an assurance of future cooperation. The USDA hired a landscape architect as a consultant, which Jeffers acknowledged as important for supervising cleaning and clearing in areas near the proposed parkway right-of-way.⁷⁰

In 1934, the USDA acquired additional land and began improvements that required a revision to Jeffers' 1932 plans. The revised alignment followed Beaverdam Creek to its source. Jeffers noted that although the new line was 2/3 mile longer, it was an improved location because it had a better diversity of trees, a stream that ran nearly the entire length of the road, and a topography with easier grades. He pointed out that the new location was less developed and did not run as close to the farm's activities. Jeffers also observed that it was a disadvantage that the new alignment did not pass by the "interesting" farm activities. The USDA's landscape consultant approved of Jeffers' new location and the NCPPC adopted the revision.

⁷⁰ Extract from National Capital Park and Planning Commission Minutes, September 15-16, 1933; Extract from National Capital Park and Planning Commission Minutes, October 20-21, 1933; Arno B. Cammerer, letter to R. G. Tugwell, October 24, 1933; T. C. Jeffers, memo to Arno Cammerer, October 25, 1933; A. D. Taylor, letter to T. C. Jeffers, December 2, 1933; T. C. Jeffers, letter to E. W. Sheets, December 5, 1933, in RG 328, Box 126, National Archives.

BALTIMORE-WASHINGTON PARKWAY

HAER No. MD-129

(Page 44)

USDA cooperation made it possible for the NCPPC to secure a substantial section of the BWP without the cost of land acquisition.⁷¹

During the 1930s, Ellicott's idea for a national forest was briefly resurrected and regenerated interest as a way to expedite parkway construction. Proposals included using a special \$20 million U.S. Forest Service appropriation for land purchases between Baltimore and Washington and using the Civilian Conservation Corps to construct the road. The NCPPC abandoned the possibility of a national forest in 1933, citing the difficulties in obtaining the necessary legislative support from the State of Maryland. Ellicott's ongoing involvement was significant, however, in that he continued to suggest how the parkway proposal could move forward. He encouraged the NCPPC to consider the use of government-owned land when planning the proposed parkway, which it did by forging ties to the USDA and War Departments. He also pointed out another justification for the parkway, noting that it would be a good means by which to connect government reservations. As early as 1921, Ellicott had suggested that his forest proposal be considered as the basis for a regional plan for the Baltimore-Washington area. In 1935, he again suggested that a regional plan for the Baltimore-Washington-Annapolis area be conducted, with the involvement of local, state, and federal interests.⁷²

A Baltimore-Washington-Annapolis regional plan was completed in 1937 and introduced the first tangible public proposal for a Baltimore-Washington Parkway. The report recommended that land acquisition for a new right-of-way for the BWP

⁷¹ T. C. Jeffers, Baltimore Parkway, Suggested Revised Line, January 18-29, 1934; John Nolen, Jr., letter to William M. Ellicott, December 17, 1934, in RG 328, Box 126, National Archives.

⁷² Ward Shepard, "Proposed National Forest Between Washington and Baltimore," May 28, 1933, in RG 328, Box 126, National Archives; Leach, National Register of Historic Places Registration Form, section 7, p. 8; National Capital Park and Planning Commission Minutes, June 23, 1933; Frederic Delano, letter to William Ellicott, October 20, 1933; William Ellicott, letter to John Nolen, Jr., June 23, 1933; William Ellicott, letter to Nolen, January 1, 1935; William Ellicott, letter to H. Lee Hoffman, January 7, 1935, in RG 328, Box 126, National Archives; William M. Ellicott, letter to Charles Moore, December 26, 1921, in RG 66, Box 27, National Archives.

should commence immediately. It suggested that the public areas between the USDA Agricultural Research Center and Fort Meade be used for a right-of-way for sections of the BWP, thus reducing the expense of land acquisition. The regional plan justified the need for a parkway by citing the inadequate conditions on U.S. Route 1, including traffic congestion, an unsightly entrance to the nation's capital, and a high traffic fatality rate. During 1936, statistics indicated that forty-five deaths occurred on the road's 28.7 miles. The regional study concluded that conditions on U.S. Route 1 required immediate relief by construction of a modern intercity motorway. Attractive features of modern motorway development were highlighted, especially the need to prohibit the "miscellany of hot dog stands, billboards, and other traffic hazards," that characterized U.S. Route 1. The report recommended a landscaped four-lane divided parkway, limited to passenger traffic, that would provide a pleasant, high-speed route without the interruptions of at-grade road crossings and other annoyances of congested urban centers. Finally, the regional plan justified the BWP as a strategic connection between Fort Meade and Washington and Baltimore. A map indicated that the BWP would run roughly parallel to and east of U.S. Route 1, exiting the District of Columbia from a point on the Anacostia River.⁷³

At the March 1937 meeting of the NCPPC, members agreed that the time was right to start the BWP project. The NCPPC estimated that the land required would cost between \$10 and \$35 per acre. After the meeting, Cammerer wrote to Abel Wolman, chairman of the Maryland State Planning Commission, regarding the BWP progress. He reported that almost half of the 13.5 miles of road in Prince Georges County could be routed through government-owned land and estimated that the remaining land required in Prince Georges County could be purchased for no more than \$850,000. His objective in writing to Wolman was to obtain Maryland's commitment to provide money for land acquisition for a right-of-way. If the state did so, the NCPPC could use the Capper-Cramton Act to grant one-third of the funds required for land purchase to the Maryland National Capital Park and Planning Commission. Cammerer emphasized to Wolman that BWP progress

⁷³ "Regional Planning--Baltimore-Washington-Annapolis Area," 1937, 42-45.

depended on Maryland's support and that in the long run, the state could not afford to lose the project. He iterated that the federal government had made a substantial contribution by making land available from its agencies along the route and that with rising land costs, the state should not wait to take action. By 1937, the federal government had also acquired 17,000 acres for the Farm Security Administration's Greenbelt housing project, making additional land available for the BWP.⁷⁴

The NCPPC continued to advance BWP plans in 1938. Some land had been acquired in the District of Columbia. Congress appropriated \$300,000 for land acquisition in the Anacostia Valley. The money was expected to "go a long way" towards closing the gaps between Anacostia Park and Greenbelt as well as the agricultural research center and Fort Meade. In addition, NCPPC planner John Nolen, Jr. had requested that Frederick Delano use his position on the Arboretum Advisory Committee to work with that organization in securing a roadway through its property. The NCPPC was also deliberating proposals to extend the BWP southward to connect with the George Washington Memorial Parkway, to Fort Foote and Fort Washington.⁷⁵

Publicity regarding the State of Maryland's possible purchase of the old Baltimore Washington Annapolis Railroad (BWAR) right-of-way briefly disrupted the BWP planning process in late 1938. Although the Maryland State Road Commission chief engineer, Nathan Smith, proposed to use the BWAR route for local projects, the possibility of a Baltimore-Washington road project was also suggested. Abel Wolman learned of the purchase agreement in a newspaper and voiced his strong objections to the governor, the Maryland State Road Commission, and the press. Wolman maintained that the railroad right-of-way would be a "white elephant." He called attention to the fact that the forty-mile strip of

⁷⁴ National Park and Planning Commission Minutes, March 18-20, 1937; Arno B. Cammerer, letter to Abel Wolman, March 23, 1937; John Nolen, Jr., letter to Sam A. Lauver, June 4, 1937, in RG 328, Box 126, National Archives.

⁷⁵ John Nolen, Jr., memo to Frederic Delano, May 13, 1938; John Nolen, Jr., letter to Clarence P. Taylor, May 13, 1938; John Nolen, Jr., letter to H. J. Spelman, December 29, 1938, in RG 328, Box 126, National Archives.

land was not suitable for a modern four-lane highway: it was only 66' wide, had many narrow cuts and fills, and was surrounded by adjacent development. Smith countered that additional land could be purchased along the right-of-way for future road construction. Wolman replied that the adjacent development would make the cost of land acquisition exorbitant. The Maryland State Planning Commission also noted that if Maryland purchased the land, there would always be pressure from someone to build a through road on the right-of-way. The commission warned that if the state built a road on the BWAR route, it would duplicate the mistake it made in 1924 when U.S. Route 1 was widened from two to four lanes instead of building a new dual roadway on a new right-of-way. Wolman noted that the NCPPC shared his concerns and scolded the state road commission for not consulting with the Maryland State Planning Commission, the NCPPC, or the federal Bureau of Public Roads (BPR). The state postponed its plans to purchase the BWAR right-of-way pending further study.⁷⁶

Despite the temporary distraction of the railroad right-of-way proposal, the NCPPC and Maryland State Planning Commission kept BWP planning on track, continuing work with the USDA and War Department to locate an agreeable alignment. The BPR also became involved with the parkway project in November 1938 when it conducted a reconnaissance survey of the proposed right-of-way. The BPR noted that three railroads and one main highway already connected Baltimore with Washington; therefore the best locations for a road were already taken. In December, E. G. Middleton, BPR Senior Highway Engineer, surveyed the Beltsville area at the request of the USDA in order to learn whether the proposed road could be routed around the research center rather than through it. If the parkway could not be routed around the research center, the USDA wanted to locate the route that would cause the least impact. Middleton concluded that the NCPPC's proposed alignment was not the

⁷⁶ Wilson T. Ballard, report to Maryland State Planning Commission, December 30, 1938; Abel Wolman, letter to Nathan L. Smith, January 12, 1939; Wolman, letter to Herbert R. O'Connor, February 3, 1939; John Nolen, Jr., memo to Frederic Delano and Arno Cammerer, February 8, 1939; "Wolman Calls W.B.&A. Road Bad Purchase," [Baltimore Sun, January 13, 1934], in RG 328, Box 126, National Archives.

most desirable and recommended another route. His route left the Anacostia Valley about 1/4 mile north of D.C. and ran through undeveloped country about a mile to the east of the commission's proposed route. The BPR reconnaissance survey rejoined the NCPPC route about 1/2 mile south of Greenbelt. Middleton presented several alternatives between Greenbelt and the Beltsville area, one of which entirely bypassed the USDA land. Middleton's bypass option ran east of USDA property, but was deemed impractical as it had a "non-directional character" and would impact Fort Meade. Instead, the recommended alignment passed through the Beltsville research center at its narrowest point. Middleton suggested that the USDA refrain from further developments along the proposed line.⁷⁷

NCPPC cooperation with the War Department concentrated on "harmonizing" the military's proposed expansion of Fort Meade with plans for the BWP. The Army was considering land acquisition between Fort Meade and the Beltsville Agricultural Research Center. If the proposed expansion happened, the parkway would interfere with a firing range. General Parsons recognized the military value of the parkway, but stressed that it would only be desirable if it ran along the boundary of Camp Meade. Nolen's solution to this potential problem was to recommend that the BPR locate an appropriate route near Camp Meade. He noted that the BPR was already surveying a route from the District line to Beltsville's northern boundary and he could request that it do the same for Camp Meade. General Parsons asked Nolen to take action immediately.⁷⁸

In July 1939, the War Department received news that its expansion of approximately 10,000 acres had been approved. The Army, NCPPC, and Maryland State Planning Commission met again to discuss how an expanded Camp Meade would affect the parkway. Parsons reiterated his understanding of the road's

⁷⁷ H. J. Spelman "Baltimore Parkway" memo to Thomas MacDonald, August 28, 1944, 1-2, in RG 328, Box 127, National Archives; T. D. Harris, "Final Construction Report, Volume Two, Baltimore-Washington Parkway of National Capital Parks" (Washington, D.C.: Department of Commerce, Bureau of Public Roads, Division of Eastern National Forests and Parks, [1954]), 7.

⁷⁸ Francis D. Friedlein, memorandum, July 29, 1939, in RG 328, Box 126, National Archives.

military value and agreed in principle to allow the roadway to follow within and along the boundary of Camp Meade. The expansion was valuable as it extended Camp Meade to the Patuxent River and closed the gap between Camp Meade and the Beltsville Agricultural Research Center. Closing the gaps provided an additional five miles of parkway right-of-way. The Army expansion prompted Delano to request Thomas MacDonald, chief of the Public Roads Administration (PRA), to review the proposed route in the field so that the NCPPC could provide more detailed alignment information to the War Department.⁷⁹ MacDonald agreed to give the matter his prompt attention. By August, the PRA survey near Camp Meade was in progress and had located the new line along the installation's future western boundary. In mid 1940, Secretary of War Harry H. Woodring notified Delano that the PRA's revised route had been tentatively accepted. Woodring stated that the War Department planned to acquire land up to and including the route for the parkway when funds were available. The military promised to "favorably entertain" a further request to build a highway on the approved location.⁸⁰

While field surveys were underway, MacDonald also worked with District of Columbia authorities to establish the parkway's entrance into the city. By September, the NCPPC had submitted its plan for an approach through Anacostia Park into Washington to the District Highway Department.⁸¹

In 1940, Nolen noted that the parkway was now being proposed primarily to serve inter-city traffic. He also maintained the parkway's military importance, observing that during an emergency, the route would be more useful than U.S. Route 1. The parkway could be controlled and readily reserved for military use, as opposed to the congested Route 1. The parkway would also be less vulnerable to aerial attack as it

⁷⁹ Frederic A. Delano, letter to Thomas H. MacDonald, July 31, 1939, in RG 328, Box 126, National Archives; Harris, "Final Construction Report," 7; Spelman "Baltimore Parkway" memo, 1-2.

⁸⁰ Spelman, "Baltimore Parkway" memo, 3. The BPR became the Public Roads Administration in July 1939. In July 1949, the PRA became the BPR again. The FHWA was the federal transportation agency by the 1960s.

⁸¹ Thomas H. MacDonald, letter to Frederic A. Delano, August 25, 1939; John Nolen, Jr., memo to Frederic Delano, September 7, 1939, in RG 328, Box 127, National Archives.

wound through wooded areas.⁸²

In 1940, the NCPPC also worked towards a cooperative relationship with the Farm Security Administration's Greenbelt housing project. The best location for the BWP appeared to be along the eastern portion of the Greenbelt project, an area which was undeveloped at the time. The NCPPC wanted to know how the agency planned to expand in the future. In early 1941, the commission learned that the Greenbelt project planned to add another 1,000 housing units, which would overlap the tentative parkway location. Nolen asserted the importance of coming to an agreement with the Greenbelt authorities.⁸³

By 1941, it appeared that Maryland officials were becoming impatient as they waited for the proposed road to be built between Baltimore and Washington. In September, the Maryland legislature created a temporary obstacle to BWP planning when it authorized a toll road between the two cities that essentially followed the same lines as the proposed parkway. The state was trying to find a way to fund a road that would replace the "hot dog paradise" known as U.S. Route 1. The NCPPC had objected to the plan and unsuccessfully lobbied Maryland authorities to reject it. The commission pointed out that much of the road would have to pass through federal lands and would be unlikely to receive permission to do so. The NCPPC reaffirmed its support for a parkway, not a toll road, and redoubled its efforts to get all agencies in agreement on the proposed BWP alignment. By September, Delano reported that the NCPPC, Maryland National Capital Park and Planning Commission (MD-NCPPC), USDA, War Department, and PRA had all agreed to the proposed location after eight years of "intermittent" study. There was also agreement on the parkway's general design: limited to passenger traffic, no at-grade intersections, and a right-of-way of at least 400', depending on topography. The parkway would eventually cross the Potomac River at

⁸² John Nolen, Jr., memorandum to Frederic Delano and Arno Cammerer, January 2, 1940; Nolen to Delano, October 1, 1940, in RG 328, Box 126, National Archives.

⁸³ Frederic Delano, letter to J. O. Walker, July 18, 1940; National Capital Park and Planning Commission Minutes, February 20-21, 1941, in RG 328, Box 126, National Archives.

Alexandria and connect to the George Washington Memorial Parkway. Delano also began discussions for parkway funding.⁸⁴

DESIGNING THE BALTIMORE-WASHINGTON PARKWAY

Initial Funding

Federal aid was always an essential factor in building the Baltimore-Washington Parkway. Federal agencies provided land for the parkway. A Congressional appropriation in 1938 provided \$300,000 for the right-of-way acquisition in the District of Columbia. The Capper-Cramton Act provided funding for the M-NCPPC to purchase the right-of-way in Maryland.

By 1941, the question of financing the parkway became a paramount issue for those involved in BWP planning. The primary concern centered on who was responsible for funding the parkway. Although Delano argued that a decision on the parkway's alignment was more important than funding, he pointed out that the money needed to build the parkway would be more than the State of Maryland's entire annual highway revenue. He maintained that since the parkway would service the federal agencies along its route, there should be a way to provide more than the normal 50 percent federal funding available through the Federal Aid Road Program. During 1941, Maryland grappled with the money issue and continued its proposal for a toll road. The idea met with renewed opposition from the NCPPC.⁸⁵

In August 1942, the NCPPC finally took a step towards securing funding by preparing tentative cost estimates for the BWP between Defense Highway and Fort Meade, a distance of sixteen miles. The 1.7 miles between the Washington

⁸⁴ National Capital Park and Planning Commission Minutes, September 18-19, 1941; Frederic Delano, letter to Wilson T. Ballard, September 19, 1941; "Capital-Baltimore Highway Hinges on Maryland Finances" [Evening Star, November 25, 1941], in RG 328, Box 126, National Archives.

⁸⁵ Frederic A. Delano, letter to Wilson T. Ballard, September 19, 1941; "Capital-Baltimore Highway Hinges on Maryland Finances," [Evening Star, November 25, 1941]; Frederic Delano, letter to Thomas MacDonald, March 7, 1941, in RG 328, Box 126, National Archives.

BALTIMORE-WASHINGTON PARKWAY

HAER No. MD-129

(Page 52)

boundary and Defense Highway were not included. At the time, the land already acquired totaled 1,185 acres and would provide for 7.9 miles of parkway. For the remaining 8.1 miles of road, the cost estimate expected that 1,150 acres would be purchased at a cost of \$514,000.

Construction estimates were prepared for two sections of a single 24' roadway. The first 2.7 mile section was between Defense Highway and Good Luck Road. The other section, 2.25 miles, was from Laurel Road to the Fort Meade entrance road. Construction estimates included grading, culverts, minor structures, paving, curbs, and engineering. Ten percent was factored into the budget as a contingency. A bridge with a temporary deck was to be constructed at the B & O Railroad freight right-of-way in the first section of road. The total cost for land and construction of two sections of parkway (4.95 miles) was \$1,975,250.⁸⁶

The 1942 cost estimates also provided justification for right-of-way acquisition. The NCPPC explained that U.S. Route 1 was congested and beyond its "safe capacity limit." Due to the road's narrow right-of-way and adjacent development, it was not feasible or economical to widen it. The NCPPC also argued that the parkway was needed to connect Fort Meade and Beltsville to Washington, which had inadequate and indirect access to the capital. The NCPPC emphasized the urgency in acquiring 2.8 miles of right-of-way between Defense Highway and Good Luck Road as soon as possible, because private development was already underway adjacent to the proposed right-of-way and could extend into the area planned for acquisition. Near Greenbelt, a private airport planned to expand and that area was also recommended for early purchase. The NCPPC justified building the two sections of road, stating that the Defense Highway-Good Luck Road portion would provide Greenbelt and the Agricultural Research Center with direct access to Washington. Near Fort Meade, the construction of the parkway would provide an improved entrance road from Jessup and eliminate the need to use three miles of "narrow, rough, poorly aligned" Laurel

⁸⁶ National Capital Park and Planning Commission, "Baltimore-Washington Parkway, Ft. Meade Entrance Road to Defense Highway, Tentative Estimate of Cost," Plan No. 105.36-466, August 29, 1942, in RG 328, Box 126, National Archives.

BALTIMORE-WASHINGTON PARKWAY

HAER No. MD-129

(Page 53)

Road. The new parkway would also be available in the case of a national emergency to move troops and supplies between Fort Meade and Baltimore and Washington. The report noted that the grading and structures would be of sufficient width to accommodate the future median strip and an additional 24' roadway.⁸⁷

In September 1942, Delano recommended to President Franklin D. Roosevelt that construction begin on the two sections of the Baltimore-Washington Parkway, based on the tentative cost estimates prepared by the PRA. Delano explained the construction plans and pointed out that the road would improve access between Fort Meade and Washington. Cognizant of the U.S. war effort, Delano assured the President that the project would be designed so that no critical materials would be required. He suggested that the President approve \$2,000,000 from unobligated National Industrial Recovery Act (NIRA) funds to cover the project. Delano also informed Roosevelt that the project had been cleared with the Bureau of the Budget.⁸⁸ Before sending Delano's letter to the President, NCPPC secretary T. S. Settle met with army representatives to see whether they would support construction of the entire parkway. He learned that they would not certify that the entire parkway, estimated to cost \$6,000,000, was a military necessity. As a result, Settle sent Delano's letter requesting \$2,000,000 to the White House.⁸⁹

President Roosevelt requested that General Fleming, Administrator of the Federal Works Agency, appropriate \$2,000,000 from NIRA funds for the Baltimore-Washington Parkway in September 1942. Fleming released the appropriation to the Public Roads Administration, which asked that the matter remain confidential. The PRA anticipated that public knowledge of the project would drive up land prices during the land acquisition process. The

⁸⁷ National Capital Park and Planning Commission, "Baltimore-Washington Parkway, Ft. Meade Entrance Road to Defense Highway, Tentative Estimate of Cost," August 29, 1942.

⁸⁸ Frederic Delano, letter to Franklin D. Roosevelt, September 3, 1942, in RG 328, Box 126, National Archives.

⁸⁹ T. S. Settle, letter to Frederic Delano, September 4, 1942, in RG 328, Box 126, National Archives.

NCPPC directed its staff to cooperate with the PRA in working out the project's details, including the parkway's right-of-way. In addition, the commission requested that the Maryland State Roads Commission begin working on the section of parkway to be built between Fort Meade and Baltimore.⁹⁰

Topics for Discussion

Although money was appropriated for the parkway, a November 1942 conference report indicated that a great deal of work remained to be done before construction could begin. Major discussions concerned matters of alignment, land acquisition, and jurisdiction. The conference was attended by representatives of the NCPPC, National Park Service (NPS), PRA, USDA, War Department, and the Federal Public Housing Authority.⁹¹

The conference indicated that progress was being made on land acquisition. The right-of-way between the D.C. line and Bladensburg was being acquired by the MD-NCPPC with funds advanced by the NCPPC under the terms of the Capper-Cramton Act. The War Department remained cooperative and was in the process of acquiring another 1,000 acres between Fort Meade and the Patuxent Wildlife Research Center. Colonel Caven stated that the War Department was willing to acquire the land needed for the parkway in order to stop private development from occurring adjacent to Fort Meade. He suggested that land be acquired on a 50-50 cost-sharing basis between the War Department and NPS. The Agricultural Research Center was less enthusiastic about the parkway and again expressed its concern that the roadway would bisect the facility. Nolen re-emphasized that the parkway had to traverse through the research center because the two alternate routes were located adjacent to developments. Dr. E. C. Auchter, the USDA representative, replied that if there were no other alternative, the agency would agree to

⁹⁰ National Capital Park and Planning Commission, Minutes, September 17-18, 1942, in RG 328, Box 126, National Archives.

⁹¹ National Capital Park and Planning Commission, Minutes of Conference Held on November 4, 1942, 1, in RG 328, Box 126, National Archives.

the plan.⁹²

The matter of jurisdiction for the completed parkway was decided with little debate. A. E. Demaray of the NCPPC reported that the original intent was for the State of Maryland to build and maintain the road. By 1942, the NCPPC decided that the section between Washington and Fort Meade should be a federal rather than a state project since most of the parkway traversed through federal lands and would provide access to federal agencies. Nolen also realized that the federal government would not grant a right-of-way for a road to the State of Maryland. He also suggested that another benefit of federal jurisdiction would be the power to control what type of traffic used the road. Nolen advised that the NPS was the "logical agency." The NCPPC recommended that the BWP be established as an extension of the Anacostia River Parkway and incorporated into the capital's park system. In doing so, the road would be eligible for construction by the National Park Service. The NCPPC also suggested that the NPS would be able to secure the additional funds required to complete construction after the war. The NPS was already involved in the inter-agency cooperation when its representatives participated in a field inspection of the parkway's location during October.⁹³

Debating the Issues: Alignment and Parkway Design

With appropriations committed to the BWP, the NCPPC instructed the PRA to begin detailed surveys for the road's alignment. Although the NCPPC and MD-NCPPC had agreed on the location for the BWP in late 1941, by mid 1943 it became apparent that there was considerable disagreement between the NCPPC and PRA over the road's alignment between the Washington D.C. line and Greenbelt. In May, landscape

⁹² National Capital Park and Planning Commission, Minutes of Conference Held on November 4, 1942, 1-4.

⁹³ National Capital Park and Planning Commission, Minutes of Conference Held on November 4, 1942, 2; Max S. Wehrly, memorandum to John Nolen, Jr., October 12, 1942, in RG 328, Box 126, National Archives. Thomas Vint, who had a forty-year career with the NPS and was appointed chief landscape engineer in 1927, was part of the inspecting team. Vint was influential in the Park Service's planning process and landscape architecture during the 1920s and 1930s. No report concerning the inspection was located.

architect Thomas Jeffers reported that the PRA made an alternate survey near Greenbelt that was .6 miles shorter. He advised that the new PRA route was through rougher topography and passed along the eastern fringes of developments. Jeffers believed that the NCPPC line was more satisfactory and also less costly. In response to the differences in opinion, the PRA appointed a representative to appraise both routes. Nolen opined that the PRA was thinking in terms of building a freeway rather than a parkway. He expected that Maryland authorities would disagree with the PRA's alternate route and agreed with Jeffers that the original route provided a shorter connection to Washington, as well as to the proposed Fort Drive.⁹⁴

By June 1943, the PRA had submitted a list of properties to be acquired for the NCPPC's "valley" route and the PRA's "alternate" route. Jeffers responded with a memo that explained the differences in alignment philosophy between the PRA and NCPPC. He noted that the valley route required an average of 141.5 acres per mile for a right-of-way. By contrast, the alternate route suggested by the PRA required less than 55 acres of land per mile. Jeffers observed that the PRA's right-of-way was far below "ordinary parkway standards." He advised that the alternate route was comparable to the Suitland Parkway, which averaged 65.9 acres per mile. Jeffers also noticed that the PRA's alternate route followed property lines rather than topographic features appropriate for parkway design. He concluded that if the NCPPC wanted a freeway, the alternate route was adequate. However, if a parkway was to be constructed, the alternate route would need more land and would need to be more flexible to include streams, overlooks, and other natural features.⁹⁵

The PRA had prepared cost estimates for the two routes. In addition, the PRA had located a second alternate route,

⁹⁴ National Capital Park and Planning Commission, Extract from Minutes of the 184th Meeting, May 21-22, 1943, in RG 328, Box 126, National Archives.

⁹⁵ Thomas C. Jeffers, memo to John Nolen, Jr., June 2, 1943; National Capital Park and Planning Commission, "Baltimore-Washington Parkway, Summary of Properties, 'Valley Route,' 'Alternate Route,' 'Comparison,'" June 2, 1943, in RG 328, Box 126, National Archives.

which was also in the valley, but east of the NCPPC's original valley location. Nolen recommended that studies be prepared on the new valley route as well. He also reported that PRA chief Thomas MacDonald would personally examine the plans before they were presented to the NCPPC again. He reiterated his view that the PRA considered the project to be a freeway and reported that MacDonald was insisting that buses be permitted to use the parkway. The NCPPC staff maintained that trucks and commercial vehicles should be prohibited and that the road should be open to private passenger vehicles only.⁹⁶

The PRA presented details on the three routes for the BWP between the D.C. line and the Beltsville Agricultural Research Center in November 1943. The PRA's alternate route ran to the east of the NCPPC's original valley route. It was on higher ground and had more grades than the river-level valley route. The road ran for 6.94 miles and was estimated to cost \$534,130 per mile. The total cost of the road was estimated at \$3,130,000, which included \$500,000 for land acquisition. The valley route was 7.68 miles long and was estimated to cost \$4,294,000 to build. The right-of-way estimate was \$400,000 and the cost per mile was \$670,937.50. The price of the third (alternate valley) route was \$3,420,520 for 8.1 miles of road. The cost per mile was \$815,127.30, with \$1,233,312 budgeted for land acquisition. Each proposed route required five grade separations.⁹⁷

The major cost difference between the PRA line and the valley routes was the amount of fill required to bring the valley roadways above flood level. Nolen attributed some of the cost differences to the type of road to be constructed. The NCPPC intended to restrict the road to passenger cars, but he emphasized that the PRA planned to accommodate heavy traffic and buses. Spelman, the PRA Division Engineer, disagreed with Nolen and maintained that estimates were

⁹⁶ National Capital Park and Planning Commission, Extract from Minutes of the 187th Meeting, September 16-17, 1943, 188th Meeting, October 21, 1943, in RG 328, Box 126, National Archives.

⁹⁷ National Capital Park and Planning Commission, Extract from Minutes of the 189th Meeting, November 18, 1943, in RG 328, Box 126, National Archives.

prepared for the construction of either a parkway or freeway. The PRA estimated a maximum 3 percent grade for the proposed road, but could increase the grade for parkway construction and possibly reduce construction costs. Estimates included roadside landscape treatment, excavation, borrow, reinforced concrete pavement, concrete curbs, bridges, land acquisition, engineering, and contingencies. The PRA based its estimates on dual 24'-wide roadways with provisions for widening the roads to three lanes in the future.⁹⁸

In considering the PRA plans, the NCPPC kept in mind President Roosevelt's directive to build a parkway, noting that he did not specify a "freeway." Members objected that the PRA line passed through recently developed subdivisions near Defense Highway. If the road were built on this line, it would not only require considerable destruction of the new developments, but would require an extremely restricted right-of-way. In contrast, the original route was adjacent to park areas, which would make for a pleasing roadside appearance. The alternate route was criticized for having less attractive parkway features than the valley route. Members noted that numerous cuts of 30' to 50' were not acceptable parkway features. They also estimated that the PRA route cost calculations could vary by as much as 20-25 percent.⁹⁹

Spelman explained the PRA's views on the proposed BWP alignments, noting that the disagreement involved the first six miles of road from Washington. The PRA's alternate route was a modified version of the reconnaissance line selected by Middleton in 1938. The PRA surveys revealed "quite definitely" that a more suitable route for the section adjacent to Washington lay on high ground east of the Anacostia Valley. In examining the NCPPC's valley route, the PRA discovered that it was well below the river's maximum high water level for much of its length. In addition, the valley line did not provide space for an

⁹⁸ National Capital Park and Planning Commission, Extract from Minutes of the 189th Meeting, November 18, 1943.

⁹⁹ National Capital Park and Planning Commission, Extract from Minutes of the 189th Meeting, November 18, 1943; Spelman "Baltimore Parkway" memo, 5.

adequate interchange at Defense Highway. The PRA also considered the valley route to be longer than necessary. The alternate route had the advantage of being nearer to Bladensburg, which the PRA viewed as a service to local traffic. Spelman noted that when the survey began in 1943, there was little development along the route, but by the time estimates were completed, there were two developments, one near Defense Highway and the other near River Road. MacDonald agreed with the NCPPC that the subdivision acquisition near Defense Highway was undesirable and should be avoided, if possible.¹⁰⁰

The disagreement between the NCPPC and the PRA delayed the selection of an alignment for over a year. At the February 1944 meeting, Demaray, acting NCPPC director, recommended that members decide on the alignment immediately, as it had already been more than a year since the President had designated funds for the BWP. The commission staff opined that the PRA's alternate valley route was not acceptable, as it was nearly as expensive as the NCPPC's original route and not as satisfactory. Members did not decide on an alignment at the February meeting, but instead instructed General Grant to contact General Fleming of the Federal Works Authority. There was some question as to whether funds might expire at the end of June and Grant was to inquire how long the funds would be available.¹⁰¹

The discussion of BWP alignment continued at the March NCPPC meeting, with MacDonald and Spelman in attendance. MacDonald assured Grant that the NIRA funding would not lapse at the end of June, although he stated that the allocation had to be expended within two years. MacDonald added that he expected that the PRA would be pressured to let contracts for the BWP within six months, as contractors were finishing other work and would need new projects. He then turned the discussion to the alignment debate, noting that the issue still depended on settling a six-mile section of road that differed from the NCPPC route. MacDonald believed that the advantages of the PRA line outweighed the

¹⁰⁰ Spelman, "Baltimore Parkway" memo, 4.

¹⁰¹ National Capital Park and Planning Commission, Extract from Minutes of the 192nd Meeting, February 17-18, 1943, in RG 328, Box 126, National Archives.

disadvantages. He observed that the valley route traversed a low area that would require up to 30' of fill. He explained that from a landscape perspective, the fill was a disadvantage. As a practical matter, MacDonald admitted he did not know where he could obtain an estimated 2.5 million yards of borrow needed for the route. He continued by stating that the NCPPC established the valley route on the assumption that the U.S. Army Corps of Engineers would build flood controls in the valley and that the road could be constructed on top of the bank. He reported that the flood control project had been abandoned, which left the PRA responsible for raising the road above flood stage. Nolen responded that the Anacostia River channel would probably be deepened and straightened in order to speed the run-off. He expected that road construction would lessen rather than increase the flood problem.¹⁰²

MacDonald also addressed the NCPPC's claim that the PRA had designed a freeway rather than a parkway. He argued that although the road had for many years been planned as a parkway, the development of large residential areas, coupled with expected future developments, would ensure that the road would be a freeway or high-speed highway. The PRA did not object to building a parkway, but wanted assurances that the State of Maryland would build and maintain the remaining section to Baltimore as a parkway. MacDonald maintained that if the remainder of the road to Baltimore was not built as a parkway or not built at all, the parkway from Washington to Fort Meade would inevitably become a freeway.¹⁰³

In September 1944, the PRA submitted its final plans for the BWP between Washington and Fort Meade. Spelman presented four routes with estimated costs to the commission. The PRA still had two routes in the valley, the NCPPC's original line and the alternate valley line of 1943, which was slightly modified in this latest survey. In addition, the PRA prepared an alternate to its preferred route on higher

¹⁰² National Capital and Park Planning Commission, Extract from Minutes of the 193rd Meeting, March 16-17, 1943, in RG 328, Box 126, National Archives.

¹⁰³ National Capital Park and Planning Commission, Minutes and Appendix A, March 16-17, 1943.

land east of the valley.¹⁰⁴

Spelman described the advantages and disadvantages of the revised valley line. He noted that the valley line passed through approximately 4.5 miles of public lands in its six miles, was closer to established communities, had fewer grades, and was closer to a proposed future bypass. A decided disadvantage was that for four of six miles, the road would be on land with an elevation lower than the high water level. This section of road would have to be built entirely on fill. As a result, the road would be flat with a median strip of uniform width, which the PRA warned would be monotonous. In addition, the road would cut through a substantial portion of park lands, making those areas less useful for their intended recreational purposes. The valley route would also require considerable destruction of development, including sixty-one residences, a store, one store-apartment, twenty-nine garages or barns, and fourteen outbuildings. Because of all the development, the right-of-way would be quite restricted, making the roadside views less pleasing. The valley route was 6.4 miles long and was estimated to cost \$5,112,000.¹⁰⁵

The revised alternate "east line" on the higher ground was recommended by the PRA. It traversed almost entirely through undeveloped, wooded land. The wooded areas, according to Spelman, would provide an attractive roadside. The terrain had various grade changes and would require cuts and fills throughout its length. Overall, the variety of topography, wooded territory, and pleasant scenery would be less monotonous than the valley route. The line would directly serve newer communities, including Cheverly, Villa Heights, Riverdale Hills, and Riverdale Heights. The route also traversed 1.5 miles of publicly held land at Greenbelt. The right-of-way would encompass only sixteen houses. The estimated cost for the 5.93 mile route was \$3,177,000, which was \$2 million less than the revised valley route.¹⁰⁶

¹⁰⁴ National Capital Park and Planning Commission, Extract from Minutes of the 198th meeting, September 21-22, 1944, in RG 328, Box 127, National Archives; Spelman, "Baltimore Parkway" memo, 9.

¹⁰⁵ Spelman, "Baltimore Parkway" memo, 9.

¹⁰⁶ Spelman, "Baltimore Parkway" memo, 6, 9-10.

The revised east line, according to the PRA, met NPS parkway standards "as nearly as possible." In selecting the location, the PRA made no effort to obtain a tangent alignment or locate the dual roadways on the same grade profile. Curves were used "freely" to better fit the topography. The alignment reflected good parkway design by frequently locating the dual roadways separately and at varying distances from the other. The median strip varied from 15' wide to 400' wide. The roadways were often separated by woods, another favorable parkway feature that served to obscure oncoming headlights and provide visual interest. The PRA reported that the development of its location generally followed the procedures established for eastern parkway projects, under which the NPS did landscape and architectural work.¹⁰⁷

Jeffers praised the revised east route as superior to the PRA's first alternate plan. He noted that it was better fitted to the topography, had no excessive cuts and fills, and would be well-suited to "good parkway treatment (landscaping)." The NCPPC observed that the right-of-way was less than 250' wide, which was the standard established when surveys began. NCPPC members unanimously approved the PRA's revised east route in September 1944, with a recommendation that the PRA attempt to obtain a wider right-of-way in several places where it was too narrow.¹⁰⁸ The PRA reported that it had carried out the directive to obtain land for the wider right-of-way in 1945.¹⁰⁹

CONSTRUCTION BEGINS

Right-of-way

On the north end of the proposed parkway, the right-of-way was secured and the line through Fort Meade and the Beltsville Agricultural Research Center had already been staked in 1944. The right-of-way through sections of

¹⁰⁷ Harris, "Final Construction Report," 8.

¹⁰⁸ National Capital Park and Planning Commission, Extract from Minutes of the 198th meeting, September 21-22, 1944.

¹⁰⁹ National Capital Park and Planning Commission, Extract from Minutes, undated, [February or March 1945?]

federal property were transferred from the land-owning agencies to the National Park Service.¹¹⁰ Construction, however, did not begin because it was impossible to obtain a priority approval from the War Production Board.¹¹¹

Condemnation proceedings began in 1944 for privately owned land not yet acquired for the right-of-way. The PRA completed all land acquisition in the fall of 1947. The right-of-way ranged from a minimum width of 400' to a maximum of 1,000' at some of the interchanges. Condemnation proceedings against private owners were used for all but 149 tracts acquired for the parkway. The condemned land included unimproved woodland, truck farms, suburban lots, thirty-five houses, and part of a private airfield. Nearly all the condemned property was located within the six miles nearest Washington, D.C. The cost of land acquisitions from the private sector, including appraisals, surveys, and title searches, was \$400,000, or approximately \$39,000 per mile. The parkway traversed over 10.3 miles of privately owned land, which required taking 832 acres.¹¹²

Engineering

The development and construction of the Baltimore-Washington Parkway uniquely combined the cooperative efforts of state, local, and federal agencies and commissions. Although the National Capital Park and Planning Commission had developed and designed the Baltimore-Washington Parkway over a period of several decades, once construction began, it followed standard procedures established by a 1926 memorandum of understanding between the NPS and BPR. The agreement allowed NPS superintendents and landscape architects to determine the character of park roads. The NPS relied on the BPR's expertise and organization to conduct surveys, determine contract specifications, and manage the construction projects. NPS cooperation with the BPR ensured that park roads were built to the highest engineering standards while also protecting the landscape and parkway

¹¹⁰ Spelman, "Baltimore Parkway" memo, 8-9; Harris, "Final Construction Report," 10.

¹¹¹ Spelman, "Baltimore Parkway" memo, 9.

¹¹² Spelman, "Baltimore Parkway" memo, 8-9; Harris, "Final Construction Report," 1, 5.

values. This cooperation made it possible to standardize roads and parkways throughout the National Park System. The 1926 agreement provided the framework for decades of cooperation between the NPS and BPR, including the construction of the Baltimore-Washington Parkway.¹¹³

The numerous agencies and commissions that had cooperated in planning the BWP remained involved in realizing the parkway's construction. All plans were approved by the NPS, with the parkway's general design also authorized by the National Capital Park and Planning Commission. The Commission on Fine Arts consulted on and approved of bridge designs. Plans for local road interchanges were accepted by the Maryland Roads Commission, county engineers, and the Maryland National Capital Park and Planning Commission. The NCPPC, MD-NCPPC, Maryland Roads Commission, and District of Columbia Highway Department helped to design and also approved the parkway's connections into Washington, D.C. In addition to completing parkway surveys, plans, and contracts, the Bureau of Public Roads supervised construction, with BPR Division Engineer H. J. Spelman in charge. The National Park Service assisted with the parkway's landscape and architectural design under the direction of National Capital Parks Superintendent Harry Thompson. Benjamin L. Breeze and Dominic Annese were NPS resident landscape architects on the project.¹¹⁴

Design Standards

Design standards for the BWP were established by the PRA in November 1943 and followed the standards used for rural sections of inter-regional highways. The design allowed for a modern motorway, with 12' wide traffic lanes that could accommodate speeds of 75 m.p.h. The plans provided for three graded lanes in each direction, with two lanes paved and 10' wide shoulders. The third lane was an option for future parkway expansion. The third lane was constructed and used between River Road and Defense Highway when the road opened in 1954. The parkway used various designs for

¹¹³ Ethan Carr, *Wilderness by Design: Landscape Architecture and the National Park Service* (Lincoln, NE and London: University of Nebraska Press, 1998), 98, 174-175.

¹¹⁴ Harris, "Final Construction Report," 7-8.

grade-separation interchanges, including cloverleafs and diamond-shaped approach roads.¹¹⁵

The parkway was designed to have the most modern standards. Parkway features were incorporated, including a maximum grade of 3 percent over the roadway's "rolling country," except at one point where the grade was nearly 4 percent. There were no at-grade intersections. Other features were easy curves and limited tangents. The maximum curvature was 2°-30', with superelevated curves used above 0°-15'. Curves above 1° were spiraled.¹¹⁶

Parkway landscaping procedures included stripping and storing topsoil for replacement on the shoulders after construction. Slopes were also seeded. In order to preserve the landscape and avoid construction scars, borrow was not procured from within the right-of-way. Cleared trees and shrubs were burned within the right-of-way when possible, with material unsuitable for burning removed from the site.¹¹⁷

The First Contracts

Construction of the Baltimore-Washington Parkway was completed with progressive contracts for grading, structures, and paving. Four grading projects were completed between July 1945 and August 1947 with the initial \$2 million appropriation.¹¹⁸

Bids for the initial contracts were opened starting in June 1945. The four project areas were from Laurel-Fort Meade Road to near Annapolis Junction, Annapolis Junction Road to near Jessup Road, Defense Highway to Riverdale Road, and Riverdale Road to Good Luck Road. Nearly six miles of parkway were included in the contracts, in addition to 2.16 miles of "incidental roads." Bids for three of the four contracts came in below the engineer's estimates. The

¹¹⁵ "Baltimore Parkway Opens in Full Today To District Traffic," unidentified newspaper, [October 22, 1954]; Harris, "Final Construction Report," 8.

¹¹⁶ Harris, "Final Construction Report," 8.

¹¹⁷ Harris, "Final Construction Report," 8-9, 11, 20.

¹¹⁸ Harris, "Final Construction Report," 11.

BALTIMORE-WASHINGTON PARKWAY

HAER No. MD-129

(Page 66)

contract awards ranged from \$229,415 for the Annapolis Junction-Jessup Road section to \$351,225 for work between Defense Highway and Riverdale Road. Contractors and suppliers were from a wide geographic region, including Maryland, New Jersey, New York, Virginia, Pennsylvania, and West Virginia.

The preliminary centerlines for the project were surveyed under a separate contract with W. N. Brown, Incorporated, of Washington, D.C. in 1944. After years of planning and anticipation, work on the Baltimore-Washington Parkway started on September 8, 1945. F. E. Winter, the PRA's resident engineer, supervised the contracts until late 1945. E. L. Tarwater became the new resident engineer in January 1946 and served on the parkway project until it was completed in 1954.

Each contract included clearing, grubbing, and grading short sections of dual roadway less than two miles in length. The roadways were graded to 56' wide. The graded roadways were compacted using sheepsfoot rollers. Between Defense Highway and Riverdale Road, 33-cubic-yard scrapers were used, which was noted as being the first time such large capacity scrapers were used on highway grading in the area. The scrapers proved to be very satisfactory for moving large quantities of earth that was free of rock. Field and lab tests were conducted for all of the projects to ensure that work met specifications, including requirements for soil compaction, moisture content of concrete aggregates, and loading tests on the reinforced concrete. Two contracts also included grading short segments of incidental roads.

The contracts also required that drainage structures be installed. Drainage was comprised of a combination of concrete pipes, box culverts, and arch culverts. Transit-mix trucks with a five cubic yard capacity were used to deliver the concrete from batching plants. In order to reduce the amount of reinforcing steel required for the parkway, the projects used arch culverts designed to use "plain" concrete rather than reinforced concrete. Reinforcing steel was in short supply due to wartime needs. A. D. Battista of Washington D.C. did stone masonry work on the Laurel-Fort Meade Road to Jessup Road sections, using

stone from his quarry near Bethesda, Maryland.

Minor changes in the contracts included relocating, deleting, or adding culverts from the plans to meet conditions in the field. A major change in the Riverdale Road-Defense Highway section was grade revisions. The original plans indicated that approximately 70,000 cubic yards of material were expected to be available for fill. After grading began and cuts were opened, no suitable material was found. To make up for the difference, the grade was adjusted. In addition, sewer and water lines were discovered in the right-of-way and had to be relocated. Near the District of Columbia Home for the Feeble Minded Children, a temporary fence had to be built to keep patients away from the construction site.¹¹⁹

Suspending Construction

The last of the four contracts was completed on August 15, 1947. No further work was done until January 1951 due to lack of funding.¹²⁰

After the \$2 million in NIRA funding was spent, the NCPPC had to find a way to pay for the remainder of the parkway. As early as 1946, the Public Roads Administration suggested that funding from the National Park Service budget would be an appropriate means to complete the highway. MacDonald and NPS Assistant Director Demaray planned to introduce legislation that would transfer the Washington-Fort Meade section of the parkway to the Park Service and provide the means to fund the remaining construction. In 1947, the Department of the Interior (DOI) budget had \$15 million for parkways under construction, including the George Washington Memorial Parkway, Blue Ridge Parkway, and Natchez Trace Parkway.¹²¹ Seeing that Congress provided for other parkways, planners realized that transferring the parkway to the NPS (which it had already recommended), along with a

¹¹⁹ Harris, "Final Construction Report," 30-37, 50-57.

¹²⁰ Harris, "Final Construction Report," 11, 55.

¹²¹ Rudolph Kaufmann II, "Baltimore-Washington Parkway Slowly Begins To Take Shape," [Evening Star, March 3, 1946]; Kaufmann, "Potomac, Baltimore Parkways To Be Pushed in New Congress," [Evening Star, December 2, 1946].

request for funding from Congress would complete the long-awaited Baltimore-Washington Parkway.

LEGISLATION

Failed Attempts

In December 1946 a bill was drafted to provide for the administration and maintenance of the BWP by the Secretary of the Interior through the National Park Service. The bill proposed the BWP as an extension of the Washington park system. Section 2 of the proposed legislation provided that federal agencies with lands adjacent to the parkway coordinate future developments and improvements with the Secretary of the Interior. Section 3 gave the Secretary of the Interior the power to issue permits for rights-of-way that intersected with the parkway. The bill stipulated that the parkway would be restricted to passenger cars, passenger carriers, and light delivery trucks. The Secretary of the Interior was also authorized by Section 5 of this bill to accept title to any land in connection with the parkway. Section 6 of the bill provided DOI funding for the parkway in the 1947 fiscal year. The proposed bill also included the transfer of the Suitland Parkway to the NPS.¹²²

MacDonald reviewed the draft of the proposed bill and recommended that three sections be eliminated. He objected to Section 2, noting that the federal agencies had already granted a right-of-way of more than 450 acres for the parkway and should not be expected to give more. MacDonald warned that the clause would probably be strenuously opposed by the agencies. He also pointed out that Section 3 would be problematic, as the Secretary of the Interior would be "constantly harrassed" by those who wanted exit/entrance rights to the parkway. He opined that the planned parkway crossings were sufficient. He wanted to delete Section 5 because the land acquisition for the parkway had not been completed. MacDonald suggested that Section 6 be revised to allow for appropriations in each fiscal year, rather than

¹²² Draft of a Bill for Baltimore-Washington Parkway, no date, in RG 328, Box 127, National Archives.

restricting the clause to 1947.¹²³

The NCPPC commented on the draft bill in June 1947. It recommended that the road to Baltimore be called the "Baltimore-Washington Parkway" rather than Washington Baltimore Parkway. It also requested that the roads be referred to as parkways instead of freeways. The NCPPC suggested that Section 4 be revised to give the Secretary of the Interior authority to control the types of traffic and that the bill be specific as to the type of bus traffic permitted.

Rep. Lansdale G. Sasscer of Maryland introduced the bill to the House in April 1948 as H.R. 6177. The legislation provided for the development, administration, and maintenance of the BWP and Suitland Parkways by the Secretary of the Interior. Section 1 designated the parkways as extensions of the Washington park system. Section 2 authorized the parkways as limited access roads restricted to passenger vehicles that would provide "a dignified, protected, safe, and suitable approach" into the nation's capital. The BWP was also deemed necessary for its ability to provide federal agencies along its route with an "uninterrupted" access to government offices in Washington. The Secretary of the Interior would have the authority to control access and specify the types of vehicles allowed on the roads. The Secretary was also given the power to accept lands, easements, and rights-of-way from the State of Maryland or from other federal agencies. Section 5 required that money for parkways be appropriated to the NPS to continue construction, development, maintenance, and policing of the parkways.¹²⁴

The Secretary of the Interior reported on the construction progress and benefits of the BWP to the Chairman of the House Committee on Public Works, George A. Dondero. He recommended that H.R. 6177 be enacted, noting it was an

¹²³ Thomas H. MacDonald, letter to A. E. Demaray, March 7, 1947, in RG 328, Box 127, National Archives.

¹²⁴ A Bill to Provide for the Development, Administration, and Maintenance of the Baltimore-Washington Parkway and the Suitland Parkway, 80th Cong., 2d sess., H.R. 6177, April 8, 1948, in RG 328, Box 127, National Archives.

important entrance to Washington and provided access for federal agencies. In addition, he maintained that the parkway was "desperately needed" to relieve the congested U.S. Route 1, which had one of the nation's highest accident and fatality rates.¹²⁵ U.S. Grant III noted that the parkways were "essential elements in a comprehensive and coordinated plan of parkways" recognized by the NCPPC for the nation's capital. He recommended that Dondero support the bill.¹²⁶ The Senate version of the bill was introduced by Sen. Millard E. Tydings of Maryland in April 1948.¹²⁷

The bill to transfer the BWP to the NPS did not pass and was reintroduced at the next session of Congress. Sasscer's bill amended Section 3 to authorize the Secretary of the Interior to accept land from private owners as well as government agencies.¹²⁸ The Senate version of the bill also reflected the revision. Grant enthusiastically endorsed the Senate bill in a letter to Dennis Chavez, Chairman of the Senate Committee on Public Works. He called attention to the Section 3 revision, noting that the NCPPC supported amending the clause to be more specific in granting authority to the Secretary of the Interior to accept land.¹²⁹ Maryland Representative Fallon, roads subcommittee chairman for the House Public Works Committee, appealed to President Harry Truman to support an immediate \$11 million appropriation for the BWP. The bill, as submitted to the House, did not request funding, but only the road's transfer to the NPS.¹³⁰

The House Public Works Committee held hearings on the bill to transfer the BWP and Suitland Parkway to the NPS in June 1949. Committee chairman Will M. Whittington explained that

¹²⁵ Secretary of the Interior, draft of letter to George A. Dondero, April 1948, in RG 328, Box 127, National Archives.

¹²⁶ U. S. Grant, III, letter to George A. Dondero, June 7, 1948, in RG 328, Box 127, National Archives.

¹²⁷ S.R. 2499, 80th Cong., 2d sess., April 14, 1948, in RG 328, Box 127, National Archives.

¹²⁸ H.R. 2214, 81st Cong., 1st sess., February 2, 1949, in RG 328, Box 127, National Archives.

¹²⁹ U. S. Grant, III, letter to Dennis Chaves [sic], March 16, 1949, in RG 328, Box 127, National Archives.

¹³⁰ Don S. Warren, "President Urged To Support Fund For Expressway" [unidentified newspaper], April 24, 1949, A-21.

the situations of the two parkways were different. Consequently, the bill was split so that the committee could deliberate on each parkway separately. The committee concluded that the Suitland Parkway to Andrews Air Force Base was an "emergency" matter and cleared it for House action. The BWP, however, was recommended for further study by the PRA.¹³¹

By 1949, work on the federal section of the BWP appeared to be hopelessly stalled. According to the *Evening Star*, the "dirt was flying" as bulldozers and earth movers built the State of Maryland's section between Baltimore and Fort Meade. Additional evidence of the state's progress appeared in a photograph of an underpass being built near Fort Meade. The state was spending \$15 million on its segment and hoped to complete it by 1951. Government officials and interested citizens attended an American Automobile Association luncheon in August 1949, hoping to hear of a new impetus in the federal section of the parkway. Sasscer, along with Maryland Representative Fallon, reported that they planned to again introduce a bill to transfer the parkway to the NPS. They also intended to spearhead a drive for an \$11 million Congressional appropriation for construction. Sasscer reported that President Truman was personally interested in the road's completion. He also noted that he was not optimistic about the bill passing during the current session of Congress.¹³²

Fallon submitted a \$2 million request for road construction in October. The House rejected the request, with Whittington noting that hearings on the BWP would be held the following year. He blamed Maryland's attitude for the lack of progress on the parkway, noting that local governments were supposed to contribute to highway

¹³¹ "New Hearings Set on Control Of Washington-Meade Parkway," *Evening Star*, June 3, 1949.

¹³² "Parkway Grant Of \$11,000,000 To Be Asked," [unidentified newspaper, August 13, 1949]; "Baltimore Parkway Under Construction," photograph, [Washington Star, August 14, 1949], in RG 328, Box 127, National Archives; William A. Millen, "Baltimore Expressway Work Pushed," [Washington Star, August 14, 1949], in RG 328, Box 127, National Archives.

projects.¹³³ Whittington failed to give credit to the state for fulfilling its part of the agreement to build the parkway between Fort Meade and Baltimore. He failed to take into account the NCPPC's rationale that the federal government should pay for the parkway since its route was almost entirely through federal property.

A newspaper editorial expressed frustration with the stalled road project. One writer wondered what happened to the proposed parkway of which little had been heard since the end of the war. The parkway was urgently needed to "relieve a traffic headache" on the nearby U.S. Route 1. The editorial noted that the government's reluctance to fund the road's completion was due to shortages of materials, money, and labor. The writer concluded, however, that "the construction outlook [was] more favorable than at any time since the war," and added that it was "about time" to seriously consider finishing the parkway.¹³⁴

In November, Maryland went on the offensive in an effort to force the federal government to complete the BWP. The Maryland State Roads Commission chairman, Robert M. Reindollar, gave newspapermen a tour of Maryland road projects. He informed them that the state had paved more than one quarter of its twelve miles of BWP. He emphasized that it had been seven years since \$2 million was appropriated to start the federal section and only six miles of it had been graded. Reindollar complained that the federal government was not fulfilling its part of a "gentlemen's agreement" that stipulated that it build the road between Washington and Fort Meade, with the state building the remaining section to Baltimore. He reported that he "didn't get to first base" when he tried to convince the Federal Works Agency to restart the project. In light of that failure, Governor Lane requested an appointment with President Truman to urge him to "break the bottleneck."¹³⁵

¹³³ "Funds Blocked For Parkway To Baltimore," *Evening Star*, [October 15, 1949], A-20.

¹³⁴ "To Relieve a Traffic Headache," [unidentified newspaper, April 29, 1949].

¹³⁵ "Lane to Ask Truman for Aid In Speeding Parkway Project," [unidentified newspaper, November 15, 1949].

The Final Debate: Congress Approves the BWP

In January 1950, a bill was pending in both houses of Congress to authorize the transfer of the Baltimore-Washington Parkway. The bills were sponsored by Maryland's Congressional delegation, including Senators Tydings and O'Connor, and Representative Sasscer. Truman added his support to the bill, requesting that Congress enact the legislation to complete the long-delayed road. A \$3 million supplemental appropriation was requested for the 1951 budget, with the remaining funds to be appropriated from future DOI budgets during the following fiscal years. Overall costs were estimated at \$15 million.¹³⁶ The proceedings leading to passage of the bill indicated that an emphasis on national defense during the Cold War era provided an incentive to complete the BWP.

During hearings, Maj. Gen. Grant urged Whittington to support the bill. He reiterated the previous reasons for justifying the parkway: a relief to U.S. Route 1 and an access route for federal agencies. Grant emphasized that the parkway was an important direct connection for the large army reservation at Fort Meade. He also explained a new justification, maintaining that in 1950, it was critical for the government to disperse its future establishments in the interests of national security.¹³⁷

Newspapers also maintained pressure on the government to speed completion of the BWP. A sensational editorial, "The Bloody Baltimore Pike," called attention to the increasing carnage on U.S. Route 1, referring to the road's "graveyard of smashed cars." By 1949, the accidents on the road had risen to 729, with 488 injuries and thirty-eight fatalities. The writer called for the "rush-order completion" of the parkway, deeming it a "potential lifesaver."¹³⁸

Military needs were emphasized at early hearings on the

¹³⁶ "Steps Sought to Complete Parkway to Baltimore," [unidentified newspaper, January 9, 1950]; Harris, "Final Construction Report," 7.

¹³⁷ U. S. Grant, III, letter to Will M. Whittington, February 3, 1950, in RG 328, Box 127, National Archives.

¹³⁸ "The Bloody Baltimore Pike," [Star, March 2, 1950], in RG 328, Box 127, National Archives.

parkway bill. MacDonald testified that Washington, D.C. would be the focus of an attack during an emergency. He emphasized that the BWP was a necessary evacuation route that would allow the population to leave the city. The road would be valuable for moving military traffic and ordnance. MacDonald also read a letter of support from President Truman.¹³⁹ Other testimony in favor of the parkway was presented by District of Columbia officials, the NCPPC, M-NCPPC, and the American Automobile Association. Testimony insisted that the parkway was needed as a reliever road for U.S. Route 1. The hearings also discussed the New York Avenue route into Washington. Some testimony expressed concern that the federal government was being asked to build the parkway and that Maryland was not contributing to its construction. Fred Tuemmler of the MD-NCPPC emphasized that the state had already made considerable progress in completing its section of the parkway.¹⁴⁰

Fallon's report to the House in March 1950 provided an overview of the project and noted changes from previous bills. Fallon reported that Truman had included \$3 million for the parkway in his 1951 budget request. He explained that the bill was amended to extend the road an extra half mile through Anacostia Park to the Washington boundary. Fallon emphasized that the right-of-way had been acquired and traversed near or through five federal installations with thousands of employees that would use the road. Additional justifications for the project included the enhancement of property values along the route, which would also benefit the federal government when it sold land at Greenbelt. Fallon stressed the military use of the highway. He concluded his report by explaining that the State of Maryland was making a substantial contribution to the parkway by extending it from Fort Meade to Baltimore. He maintained that the federal government had considerable interests and would derive "such special benefit" from the parkway that it should fund the project in its entirety. Some Congressmen were concerned that funding the project would set a precedent for other states' requests for highway

¹³⁹ Harold B. Rogers, "Parkway to Baltimore Vital in Case of Attack on D.C., Expert Says," [Evening Star, February 1, 1950].

¹⁴⁰ "D.C.-Baltimore Parkway Backed By Gen. Young," [unidentified newspaper, February 2, 1950].

funding. Fallon argued that funding the entire project would not be precedent-setting, concluding that the BWP was initiated by the federal government to serve federal agencies on government-owned land. He observed that the state would probably never have conceived of a road through federal property and noted that it had complied "in good faith" with its responsibility to build its section.¹⁴¹ Fallon's implication was that it was time for the federal government to act on that good faith.

The Baltimore-Washington Parkway bill was unanimously passed by the Public Works Committee and debated by the full House in May 1950. The bill faced in inauspicious start and immediately stirred controversy. The House debate focused on whether the federal government should be financing the entire cost of the parkway between Fort Meade and Washington. Fallon and other representatives emphasized that the agreement was for Maryland to pay for the road between Baltimore and Fort Meade, and the federal government to pay for the remaining section. The state had expended considerable funds and was almost finished with its part of the project. Representative Stefan objected to the bill's \$13 million price tag and claimed that a quick decision would set a precedent for other states to request federal money to completely finance their highway projects. Fallon pointed out that the decision could not be quick, since the project had been in progress for nine years. Stefan refused to budge, calling for a "full and lengthy debate in view of the money involved and the precedent the legislation sets."¹⁴²

The House continued its debate on the issue of precedent. Although Fallon continued to insist that full federal funding of the BWP was not precedent setting, Whittington replied that the question was a valid concern. He noted that the federal government had built and paid for numerous parkways and roads outside the District of Columbia, including the Mount Vernon Memorial Highway and other roads in Virginia. Fallon responded that the federal government

¹⁴¹ U.S. House. Report No. 1785 to accompany H.R. 5990, 81st Cong., 2d sess., March 16, 1950, in RG 328, Box 127, National Archives.

¹⁴² Congressional Record, 81st Cong., 2d sess., May 15, 1950, 7124-7125, in RG 66, Box 26, National Archives.

had asked Maryland to build the road; it was not a case of the state asking the federal government for something. He again emphasized that Maryland had contributed to the cost of construction in its section.¹⁴³

Partisan debate began when Republicans complained that they had not received adequate notice that the bill was to be considered. They requested the debate be postponed, arguing that there was no quorum, which was unacceptable on such an expensive project. Representative Wilson of Indiana charged that the bill "smelled of pork" and that the decision whether to spend millions for a road "to the racetracks" in Laurel and Pimlico should have the full attention of the House. Other Representatives claimed that the bill should have been considered as part of the Federal Aid to Highways Act.¹⁴⁴ Representatives Whittington and Dondero continued the debate by elaborating on the road's benefits to private citizens who traveled the area as well as the federal installations along the route. Whittington defended the \$13 million price tag by comparing it to similar costly projects and noting that it was no different than Washington's other parkways. Wilson charged that the comparison between the Mount Vernon Memorial Highway and the BWP was untenable, as Baltimore was not the national shrine that Mount Vernon was. The House debate ended with no resolution on the issue of the parkway transfer and construction.¹⁴⁵

A newspaper editorial admonished House members and Representative Wilson as "either uninformed or misinformed" about the purpose of the BWP. It claimed that anyone who knew the history of the project realized that Wilson's charge of pork barrel politics was groundless, because the parkway was conceived as a much-needed highway and a military necessity. The editorial alleged that if Congress did not complete its section of parkway, it would amount to a breach of contract with the State of Maryland.¹⁴⁶

¹⁴³ Congressional Record, May 15, 1950, 7126-7127.

¹⁴⁴ Congressional Record, May 15, 1950, 7127; Harold B. Rogers, "Bill for Parkway May Come Up Again Thursday," [Evening Star, May 15, 1950].

¹⁴⁵ Congressional Record, May 15, 1950, 7130-7134.

¹⁴⁶ "This Parkway is Not 'Pork'" [unidentified newspaper], May 18, 1950, A-16.

BALTIMORE-WASHINGTON PARKWAY

HAER No. MD-129

(Page 77)

Ten days later, the House resumed debate on the bill to transfer the Baltimore-Washington Parkway to the NPS. Representative Garmatz commenced the discussion by noting that the BWP was not only an improvement for Maryland's road system, but an important thoroughfare in east coast interstate traffic. He added that the parkway was initiated by the federal government to serve federal agencies. Garmatz maintained that if the government did not complete its section, the roadway that Maryland had nearly completed would be worthless. He observed that the project was intended to be a defense road and still served that purpose.¹⁴⁷

Representative Gross expressed his and others' main opposition to the bill by highlighting the parkway's cost. He charged that the cost of construction for nineteen miles of road was extravagant at \$790,000 per mile. He noted that the price was especially high, since the land had already been acquired, and wanted to know why it would cost so much. Fallon replied that the topography of the land was difficult and would require numerous bridges, overpasses, and underpasses.¹⁴⁸

Whittington concluded the discussion with a summary of the main points of debate. He reiterated the need for a new road between Baltimore and Washington that would serve the public as well as federal installations, especially the military. He emphasized that the parkway would promote public convenience and carry an estimated 20,000 vehicles a day. Whittington maintained that the road was an important segment of the interregional highway system. He also observed that the bill limited the cost of construction to \$13 million. Whittington opined that the federal government was getting a modern parkway at an economical price compared to similar roads under construction in New Jersey and Pennsylvania. Finally, he underscored the importance of keeping faith with the 1942 agreement made with the State of Maryland. He emphasized that the project was of benefit to the American people, not just the citizens of Maryland. After Whittington's summary, the House of Representatives

¹⁴⁷ Congressional Record, 81st Cong., 2d sess., vol. 96, no. 104, May 25, 1950, 7789, in RG 66, Box 26, National Archives.

¹⁴⁸ Congressional Record, May 25, 1950, 7790-7791.

voted to pass the bill, with seventy-one members supporting it and ten voting against it.¹⁴⁹ Attendance at the House vote was approximately the same as the previous meeting in which some members wanted to postpone discussion of the issue because of the high number of absentees.

National defense and the outbreak of the Korean conflict ensured easy passage of the bill in the Senate in late July 1950. Approval was unanimous after Senator Tydings, chairman of the Armed Services Committee, called the BWP vital to national defense. Tydings warned that an atomic attack on Washington or Baltimore was no more of "an impossibility" than the recent attack on South Korea. He claimed that the BWP was "indispensable" in case of a nuclear attack. Tydings emphasized "the life of the Capital" would depend on Washington's connection to an airport. He reminded senators that Baltimore's new Friendship Airport would be the main interceptor airfield to protect Washington during an attack. The new airport had been constructed to provide for national defense, with facilities designed to accommodate any plane in existence. He also believed that Friendship Airport was far enough from both cities to evade attack. Tydings remarked that both the airport and BWP would be turned over to the army during a national emergency.¹⁵⁰ The final language of the bill did not highlight the military necessity, but instead justified the BWP as a "protected, safe, and suitable approach" for passenger vehicles into the nation's capital and a means of access between federal installations and Washington.¹⁵¹

On July 31, 1950, Demaray enthusiastically reported that the NCPPC supported the bill without changes, as passed by the House and the Senate. He requested that Frederick J.

¹⁴⁹ Congressional Record, May 25, 1950, 7793-7794.

¹⁵⁰ "Tydings Urges Parkway Action As Defense Step" [unidentified newspaper, July 1950]; "Baltimore Parkway Approved by Senate, Bill to White House," Washington Post, July 27, 1950; "President Signs Bill for U.S. Part of Expressway," [Evening Star, August 3, 1950]; "Truman Signs Baltimore-D.C. Parkway Bill," [Washington Post, August 4, 1950], in RG 328, Box 127, National Archives.

¹⁵¹ An Act to Provide for the Construction, Development, Administration, and Maintenance of the Baltimore-Washington Parkway, Public Law 643, 81st Cong., Chapter 525, 2d Session, H.R. 5990, (August 3, 1950), in RG 328, Box 127, National Archives.

Lawton, Director of the Bureau of the Budget, advise President Truman to sign the bill.¹⁵² Truman signed H.R. 5990 into law on August 3, 1950. Newspaper reports called attention to the fact that only a portion of the funding needed to complete the road had been appropriated and that additional money would be required in the future.¹⁵³

The decision to finally build and complete the BWP after decades of planning and debate was greeted with relief. Maryland's first section of parkway, which led to Friendship Airport, opened less than four months after Congress authorized construction of the federal section of the parkway. An editorial recognized that approval for the road came on the heels of the Korean War and Congress justified the parkway as a matter of national security. It observed that the parkway was not authorized out of a sense of "moral" obligation to the people of Maryland. Nevertheless, the BWP was welcomed as a benefit for Maryland motorists after decades of complaining about the congested U.S. Route 1. Maryland State Roads Commission chief engineer William F. Childs, Jr. indicated that roads similar to the BWP seldom exceeded two deaths and 125 accidents per 100 million vehicle miles. In comparison, the same number of miles traveled over U.S. Route 1 produced eighteen deaths, 222 injuries, and 325 accidents.¹⁵⁴

Additional Funding

The bridges were the first contracts to be let after Congressional approval of the Baltimore-Washington Parkway. Bids for the bridges over the Little Patuxent and Patuxent Rivers were opened in November 1950 and indicated that construction costs exceeded engineers' estimates for the projects. As a result, an additional \$1.5 million was appropriated for the BWP in December 1950. The Bureau of the Budget considered the supplementary funds as a way to

¹⁵² A. E. Demaray, letter to Frederick J. Lawton, July 31, 1950, in RG 328, Box 127, National Archives.

¹⁵³ "Truman Signs D.C.-Baltimore Parkway Bill," [August 4, 1950]; "President Signs Bill for U.S. Part of Expressway," [August 3, 1950].

¹⁵⁴ "Justifying the Parkway" [unidentified newspaper, August 30, 1950]; "Drastic Accident Cut Predicted When New Expressway Opens" [unidentified newspaper, September 13, 1950].

"speed up" progress on a project that was important to the national capital's defense. The additional allocation brought the total to \$4.5 million for parkway construction through June 1951.¹⁵⁵

In early 1952, the House considered funding for the BWP in the Department of the Interior budget. Representative Fallon referred to the parkway as the number one defense road project in the nation. Congress approved \$6.7 million in the DOI budget for the road in June. It also authorized that the total budget for the parkway be increased from \$13 million to \$14.5 million. In addition, President Truman signed a federal-aid bill for 1952 that appropriated \$1.5 million for the BWP. Another significant development made steel, considered a defense priority, available for the parkway's bridges.¹⁵⁶

Truman's 1953 budget message proposed \$3.55 million for the BWP. In late 1954, the House Appropriations Committee recommended that \$2.05 million be allotted to complete the parkway project. The total construction costs for the BWP were reported as \$14,018,859.¹⁵⁷

CONSTRUCTION

Construction of the BWP continued with a series of contracts that covered various sections of roadway. The BPR described the contract bidding as "lively" and reported that it received very good prices on the projects. Construction

¹⁵⁵ "Added \$1.5 Million Is Allowed by U.S. for D.C.-Baltimore Road" [unidentified newspaper, December 20, 1950]; "A Parkway With Defense Value" [unidentified newspaper, December 21, 1950]; E. L. Tarwater, "Final Construction Report, Volume One, Baltimore-Washington Parkway of National Capital Parks, Bridges and Grade Separation Structures" (Washington, D.C.: Department of Commerce, Bureau of Public Road, Division of Eastern National Forests and Parks, 1955), 89, 108.

¹⁵⁶ "Baltimore Parkway \$6,750,000 Fund Approved by House" [unidentified newspaper, March 29, 1952]; "Money for Parkway Raised \$1.4 Million By House Committee" [unidentified newspaper, April 1, 1952]; "Congress Votes Funds For Baltimore Parkway" [unidentified newspaper], June 26, 1952.

¹⁵⁷ Harold B. Rogers, "Truman Proposes Extension of Parks and Area Parkways," [Evening Star, January 9, 1953]; Rogers, "House Group Votes Funds to Complete Baltimore Parkway," [Evening Star, April 23, 1953]; Harris, "Final Construction Report," 14.

reports indicated that some of the bids for grading projects were below the engineer's estimates. Beginning in January 1951, eleven contracts were let for grading and paving projects, with another eighteen contracts for bridge projects. Four additional contracts were let for smoothing and seeding slopes, guardrails, traffic signs, and fencing during the final year of construction in 1954. Where the parkway crossed state, county, or federal property, the BPR cooperated with the appropriate agencies.¹⁵⁸

Grading and Drainage

Grading contracts followed the pattern established for the four projects completed between 1945 and 1947. The contracts included clearing, grubbing, excavating, and bringing in borrow material from various locations outside the parkway. The construction of drainage structures was also included. Grading operations were usually accomplished by large scraper outfits, using both rubber-tired and crawler-type hauling equipment that had capacities of 10 to 13 yards each. The projects involved stockpiling topsoil for replacement along the shoulders after construction was finished.¹⁵⁹

Grading contracts, including the earlier contracts, totaled \$3,789,010. As with the first contracts, the roadways were graded to 56' wide with variable cut slopes. The dual roadways were prepared for three 12' wide lanes with 10' shoulders. The surveys were made by the BPR and plans prepared in the Roanoke and Arlington, Virginia district offices. The BPR advertised and accepted bids.¹⁶⁰

Bids opened for the first grading and drainage contract on December 19, 1950. Work to be completed was a 3.464 mile section of road between Laurel-Bowie Road and Laurel-Fort Meade Road. The engineer's estimate for the contract was \$712,975. Eleven bids were submitted and the low bidder, Wright Contracting Co. of Columbus, Georgia, won the contract for \$670,335. The contract time started on January

¹⁵⁸ Harris, "Final Construction Report," 11.

¹⁵⁹ Harris, "Final Construction Report," 11.

¹⁶⁰ Harris, "Final Construction Report," 11, 47.

21, 1951, although work did not begin until March. The contract also included .7 miles of incidental roadwork. Two county roads were relocated, graded, and gravel-surfaced under this contract, including Old Brook Bridge Road. Since the work was near Fort Meade, the Army cooperated on the project, as did state and county authorities.

Much of the concrete work required for this project was eliminated by substituting twin concrete pipe culverts for the two concrete box culverts that were in the plans. The substitution was made due to the delays in obtaining reinforcing steel, which was still in short supply and considered a "defense priority." A change order in the contract eliminated seven concrete box culverts and replaced them with twin concrete pipe culverts, which saved \$4,000. Extra work orders worth more than \$15,000 were issued to lay an additional concrete pipe and to thin and clear more wooded areas adjacent to the parkway. The contract was completed on time in July 1952.¹⁶¹

The second paving contract was underway in July 1952. J. O. and C. M. Stuart, Inc. of Washington D.C. was the lowest of twelve bidders at \$458,350. Again, the contract came in below the engineer's estimate, which was \$516,365. The project covered 1.864 miles of parkway and nearly two miles of incidental roads between the East-West Highway (Powder Mill Road) and Laurel-Bowie Road. The Contee Sand and Gravel Co. of Laurel, Maryland was the subcontractor for the three concrete box culverts built in this section. Reinforcing steel was still under defense priority control, but was available for this project.

Incidental roadwork included relocating, grading, and paving Fairspring-Springfield Hill Road and Muirkirk Road. The project also provided an access to the East-West Highway for the Beltsville Agricultural Research Station. The BPR directed the contractor to obtain material for the subbase and topping from government property rather than a commercial source. This modification in the contract saved \$10,000. The contractor completed the work on time.¹⁶²

¹⁶¹ Harris, "Final Construction Report," 48-49.

¹⁶² Harris, "Final Construction Report," 42-44.

Wright Contracting Co. was again successful in its bid on the next contract, which covered a 4.22-mile portion of the parkway from a half mile north of Good Luck Road to the East-West Highway. Fourteen bids were submitted. The contract was awarded for \$761,685, which was almost \$65,000 below the engineer's estimate. Over two miles of incidental roadwork were included.

This area required the installation of a large number of concrete pipes and culverts. Pipes varied in size from 12" to 48" in diameter. There were two 8' x 6', two double 8' x 6', and two double 8' x 10' reinforced concrete box culverts constructed. Delayed deliveries of reinforced steel due to defense controls was a factor on this project. An extra work order for \$12,198 provided asphaltic concrete paving on the relocated Branchville-Glenn Dale Road. Work was completed on schedule on October 7, 1953.¹⁶³

In August 1952, a \$55,053 contract was let to H. N. McNutt and Williams Construction Co. of Baltimore. The contract included the partial grading of a section near the beginning of the parkway east of the Anacostia River to a point south of River Road. The swampy section between the river and station 74+00 was only 3' to 4' above the river. The purpose of the project was to secure good quality granular material from designated areas alongside the roadways. The material was moved to the swampy area where it could be used as a 4' deep blanket underlay for the future fill. The contractor had problems locating suitable materials that met permeability tests within the designated borrow areas. The top material had to be excavated down until suitable granular material was found. The top material was placed in roadway fills beyond the swampy area. The BPR noted that the permeability testing consumed a considerable amount of time. The project also included construction of an embankment. After excavation was completed, the areas were regraded for drainage.

The project had only one 18" pipe culvert, which required no excavation and was laid on the ground as indicated in the plans. An old road that crossed the project between

¹⁶³ Harris, "Final Construction Report," 38-40.

BALTIMORE-WASHINGTON PARKWAY

HAER No. MD-129

(Page 84)

Stations 85+00 and 90+00 was replaced with a new 1,800'-long border road west of the southbound lanes between Station 84+00 and Station 101+00 at River Road. The contract ended within the allotted time on December 17, 1952.¹⁶⁴

Taylor Construction Co. of Asheville, N.C. won a contract for \$459,985 to grade 1.522 miles of parkway from a point south of River Road to Landover Road. Incidental road work included a concrete roadway and curb that provided access to the Prince Georges Hospital in Cheverly. The drainage work, which was included a substantial number of pipe culverts and other structures, was sub-contracted to another Asheville firm, Troitino and Brown, Inc. The contract time started on October 12, 1952.

The grading in this area was quite heavy and involved moving 700,000 cubic yards of earth. The contractor experienced problems with the excavation because of exceptionally wet weather. Some of the material was described as having a "gummy and sticky nature," which made loading difficult. In addition, the Maryland State Roads Commission failed to grade River Road on its new location in a timely manner, so that the contractor had to haul his material across the old road through heavy traffic. Another problem was that the water line under the parkway was not removed until well after the contract began. Despite the difficulties, the project was completed on time in April 1954.¹⁶⁵

J. O. and C. M. Stuart, Inc. competed with thirteen other companies to win another grading contract for \$160,695 on February 9, 1953. Work began in April on a 0.173 mile section from the western boundary of Anacostia Park to near the end of the Anacostia River Bridge. The project was similar to that completed on the east side of the river by H. N. McNutt and Williams Construction Co. in late 1952. This area was also a low-lying swamp with a ground elevation of only 3'. The main item of work was hauling approximately 207,000 cubic yards of select granular material from a borrow pit on South Dakota Avenue in Washington, D. C. The material was used to construct a highly permeable 4' deep

¹⁶⁴ Harris, "Final Construction Report," 22-25.

¹⁶⁵ Harris, "Final Construction Report," 26-29.

blanket over which the fill for the roadway could be laid. Materials were tested for compaction and permeability. The project used lower than expected quantities of materials because there was less subsidence in the swampy areas than anticipated. The project also required less material because it stopped short of the bridge site in order to avoid interference with bridge construction. Concrete pipe drains were installed as part of this contract. The BPR reported that the area had a negligible amount of topsoil available for stripping and storing. The project finished on time in October 1953.¹⁶⁶

Paving

Five contracts were let for paving between 1952 and 1954. Each contract included incidental items such as fine grading, hauling borrow, laying granular topping material, installing underdrains and pipe culverts, replacing topsoil, and seeding shoulders, and paving the incidental roads with bituminous surfacing. Two of the three graded 12' lanes were paved on all of the projects, except for the section between the District of Columbia and Defense Highway, for which three lanes were paved. The total cost of the paving contracts was \$3,402,370. A sixth contract included preparing and paving the approaches to the Anacostia River Bridge, which completed the Baltimore-Washington Parkway.

The parkway roadbeds consisted of a 12" base of granular topping material for drainage and a cushion effect. The topping material was extracted from borrow pits near the parkway. It was placed in two layers and was shaped, watered, and compacted. Next, a subbase was laid with gravel from commercial suppliers. The road surface was an 8"-thick reinforced portland cement concrete pavement. The typical roadway section consisted of two 12' wide lanes with contraction joints spaced 60' apart, and expansion joints every 600'. The travel lane shoulder was 8' wide and the passing lane shoulder was 3' wide. Shoulders consisted of bituminous pavement over several inches of crushed aggregate base and select topping. The reinforced concrete pavement cost between \$4.00 and \$4.38 per square yard, for an average

¹⁶⁶ Harris, "Final Construction Report," 15-17.

cost of \$4.20 per square yard. Asphalt concrete pavement was used on the interchange connections.¹⁶⁷

The first paving contract was let to the T. E. Ritter Corporation of Norfolk, Virginia, for \$785.532 in August 1952. Six bids were submitted for the 3.929 mile project between Laurel-Fort Meade Road and Jessup Road. The contract also included the connecting roads at the Laurel-Fort Meade interchange and the connections north of Annapolis Junction.

Grading work commenced near the Laurel-Fort Meade Road. Work proceeded northward on the left lane of the southbound roadway to the end of the project, which connected with the parkway already completed by the State of Maryland. The work then continued southward on the right lane of the northbound roadway. The median lanes were completed in the same manner. In March 1953 a paving plant was set up east of the Annapolis Junction Bridge, south of the B & O Railroad. Batching from the plant supplied this project as well as the paving project between Laurel-Bowie Road and Fort Meade Road, also done by the Ritter Corporation. Paving began June 5, 1953, and proceeded in the same order as the grading. The paving was finished on August 12, 1953. Penn Dixie cement was used in the concrete mix. Most of the concrete was air-entrained. An air-entraining agent called Darex was added to the plain cement. The contractor refused to furnish sealed bins of tested cement, so the BPR had to collect samples on the job for testing in its laboratory. Paper was used for curing and left in place for one week. After removing the paper, joints were poured with an approved rubber sealing compound.

Approximately fifty-five culverts that were built as part of the grading project in 1945-1946 needed repair and grade adjustments due to erosion. Many were clogged with silt and sand. Several cleaning methods were tried. The most successful method proved to be forcing jointed plumber's

¹⁶⁷ Harris, "Final Construction Report," 11, 59-60, 84; Federal Highway Administration, "Engineering Study Report for the Rehabilitation of the Baltimore-Washington Parkway" (Arlington, Virginia: U.S. Department of Transportation, Federal Highway Administration, Eastern District Federal Division, 1984), 23, 25.

rods through the culvert and then using them to pull a steel cable back through the culvert. Workers used two power winches, one at each end, to pull a steel bucket back and forth through the culvert. This method only worked for about 150' of culvert, so lateral drainages were broken into to provide access to the culverts between intakes. The contractor supplied and laid new pipe to repair these openings. The final cleanout of each culvert involved flushing with water.

Changes in the contract included traffic signs and the paving of the connections north of Annapolis Junction Road. Extra work orders included adding winter rye to the seed mixture used in seeding the shoulders, repairing a broken arch culvert from the 1945-1946 project, and cleaning the small drainage structures. Extra work orders cost \$8,716. The work was completed within the allotted time by December 1, 1953.¹⁶⁸

In December 1952, the Wright Contracting Company won the bid for the second paving project, which was between Defense Highway and a point one-half mile north of Good Luck Road. Five bids were submitted and the contract was awarded for \$714,118. The contract included 0.897 miles of incidental road work. The project began in February 1953 with a fine grading of the roadbed. Work started at the Defense Highway and progressed northward on both of the roadways. Borrow was obtained from a pit about 3/4 miles east of the project on Riverdale Road.

Cement for the project was supplied by the Lehigh Portland Cement Co. and the Penn Dixie Cement Co. in portions of about 50 percent each. Specifications prohibited the use of different cements adjacent to one another in order to avoid differences in pavement color. To comply, the contractor paved one lane until half the supply from one cement company was used, then paved the other lane. The cement from the second company then finished the next section. Concrete paving began on August 19 and was finished on October 26. The batch plant was set up in the median, midway between the two ends of the project area. The air-entraining agent was added to the concrete at the mill for this project, not at

¹⁶⁸ Harris, "Final Construction Report," 82-85, 87.

the job site. Medium curing asphalt was used rather than the quick curing asphalt specified in the plans. The BPR made this decision based on performance of other jobs in the area and it made no difference in the cost of the project.

Some of the outlet ditches of the existing structures had to be excavated. Large headwalls were excavated with a clamshell and the small headwalls had to be cleaned out by hand. The contract also required some pipe culverts and underdrains, which were installed during grading operations and nearly completed before the paving began.

The contractor attempted to prepare the slopes for seeding while the grading was underway, intending to seed the slopes as work progressed. In some areas, unsuitable material had to be removed from the slopes, as it consisted of a heavy, silty clay that had a high acid content, which made it impossible to grow grass. The unsuitable material was removed from the jobsite. The sloping and grading work was unsuccessful because it was so late in the season and was discontinued in June. The seeding operations were late because the seeding contractor was busy with other projects. The seeding work resumed and was completed in the fall of 1953.¹⁶⁹

The third road paving project was between Laurel-Bowie Road and Laurel-Fort Meade Road, a total of 2.869 miles. Seven bids were received with a low bid of \$423,132 submitted by the T. E. Ritter Corporation. Incidental road work included the county road beneath the parkway and the north quadrant connecting roads of the Laurel-Bowie interchange.

Grading began on March 17, 1953 at the north end of the project and proceeded southward in advance of paving operations. A borrow pit was established on private property east of the parkway. The contractor used the paving plant set up for the first paving contract. Of the numerous projects during the construction of the BWP, this section had numerous problems. Although the BPR did not provide an explanation, it reported that there were difficulties obtaining cement, so that it was necessary to use two different companies. The contractor experienced

¹⁶⁹ Harris, "Final Construction Report," 63-68.

problems with keeping the road forms in alignment. The trouble was blamed on the "granular nature" of the subgrade. By using the longest pins available, the contractor was able to increase the stability of the forms and satisfactorily pour the concrete. Heavy and continuous rains delayed paving and made working conditions difficult. The first concrete was poured on April 2, but the first two lanes were not finished until June 4. Because the project was falling behind schedule, the contractor was allowed to hire a subcontractor to pave the last two lanes of the project. The Suburban Engineering and Construction Co. completed this work between June 3 and June 29. As with previous contracts, the BPR decided to use the medium-curing asphalt rather than the quick curing asphalt for the prime coat. Paper was used to cure the concrete slabs for a minimum seven-day period. After removing the paper, compressed air was used to clean the joints, which were then filled with joint-sealing compound. Shoulder work progressed immediately behind the paving so that the seeding was completed at an early date.

Work added to the contract included adding rye to the seeding mixture, extending the pipe culvert south of the bridges at Station 790+00, and dressing slopes damaged by erosion. The extra work orders added \$1,330 to the contract price. Thirty-seven days were added to the allowable contract time. The contractor used thirty-five extra days and completed the project on November 9, 1953.¹⁷⁰

Bids opened in September 1953 for the 6.359 mile section of road north of Good Luck Road to Laurel-Bowie Road. Williams Paving Co. of Norfolk, Virginia, was the low bidder of the nine bids submitted, with a proposal of \$875,236. The incidental roads totaled 1.76 miles and included the connecting roads at the interchanges.

The grading involved considerable excavation in order to achieve the proper grades. The concrete batching plant was set up on an abandoned runway at Schrom Airport. Concrete paving began near the airport on the outer lane of the northbound road and proceeded north. The outer lane of the

¹⁷⁰ Harris, "Final Construction Report," 76-81.

southbound lane was paved next, with the median lanes finished last. Two companies supplied air-entraining concrete for the project, with each furnishing half. The concrete was to be laid alternately by each company in order to comply with specifications designed to prevent different colors of pavement from being adjacent to one another. The Lehigh Cement Co. started work first, then the North American Co. took its turn. Two days after North American started the job, however, the company went on strike. The contractor switched back to Lehigh Cement in an effort to continue work. After a few days, North American returned to work and the Lehigh Co. went on strike. North American resumed and finished work on the outside lane. The strike persisted and North American started paving the inside lanes. For unknown reasons, paving was suspended on June 14, 1954. Work resumed on July 9 and was completed on August 4th. Despite the strikes, the BPR reported "excellent progress" throughout the paving period.

Seeding work started in August and was finished by mid-September. The BPR remarked that time and labor were saved by using a Forge Harvester mulch blower to apply the mulch. The machine chopped mulch into smaller pieces and spread them over seeded areas. The machine was efficient because smaller pieces of mulch did not blow away so easily and also resulted in a more uniform cover. Additional lime and fertilizer were applied to the roadsides to promote growth and protect the slopes from erosion.

Two extra work orders were added to the contract. The first order involved cleaning drop inlets and drains from previous projects. The second work order was for the construction of a gravel outlet road to connect a private parcel to Laurel-Bowie Road. The estimated cost for the extra work was \$2,815. The paving project was completed within the allowable time in September 1954.¹⁷¹

The parkway between Defense Highway and a point south of River Road was the last section to be paved. Five bids were submitted for the project in April 1954. The Rea Construction Co. was awarded the contract for \$499,042. The Landover Road and Defense Highway interchanges included 1.8

¹⁷¹ Harris, "Final Construction Report," 69-75.

miles of incidental roads in the contract.

Only a small amount of fine grading was required on this section. Considerable borrow was placed on fill at the River Road crossing. This work had not been done in the grading contract because the road had to remain open until the new underpass was finished. The contractor set up a batching plant on a railroad siding on private property between the parkway and River Road. Paving began on June 3, 1954 and was completed north of River Road first, then south of the gap. The paving was finished by the end of July and the project was suspended until the State of Maryland closed River Road. Construction resumed in September with the grading of the River Road area. The gap was paved between September 22 and 30. The BPR noted that air entrained concrete was used, although small amounts of Darex had to be added to achieve the proper results.

An extra work order was added for cleaning out an existing large pipe culvert at River Road and adding a drop inlet in the southeast quadrant of the Defense Highway connection. The contract was completed within the days allowed on October 15, 1954.¹⁷²

The final contract to be completed on the BWP was the construction of the approaches to the Anacostia River Bridge. The project area was west of the Anacostia River and included portions of the Annapolis-Washington Expressway. Taylor and Keebler, Inc. of Clinton, Maryland, was awarded a \$249,736 contract and began work on June 20, 1954.

The work included grading, installing drainage, laying a bituminous base course, and paving. Clearing and grubbing by hand were done in order to widen the existing fills. The previously graded roadway required further excavation prior to laying the base course. Some of the borrow material needed for the project was transported over the new Anacostia River Bridge from an adjoining area just west of the project in the District of Columbia. Weight limits were established for construction equipment using the bridge. Another borrow pit was located off the right-of-way about

¹⁷² Harris, "Final Construction Report," 58-62.

one mile from the project area. Material from this pit was used for fill on the Washington-Annapolis connection to the BWP. Because the embankments on the Anacostia River Bridge approaches had not yet completely stabilized, hot bituminous concrete was laid rather than reinforced concrete pavement. The contract also included embankment, shaping, topsoiling, and seeding between Stations 85+00 and 91+00. The topsoil that had been stored during the bridge construction was found to be inferior when it was replaced on the embankments. The quality was so unsatisfactory that the contractor had to remove what had already been used and deposit it in other areas. The work was completed on schedule on October 15, 1954, shortly before the new parkway was opened to traffic.¹⁷³

Bridges

Grade separation structures were an essential parkway feature, considered a necessity from the earliest planning discussions for the BWP. Grade separations enhanced parkway safety and speed by eliminating dangerous cross traffic from the parkway.

The Baltimore-Washington Parkway had three major bridges, all of which crossed waterways: the Anacostia River, the Patuxent River, and the Little Patuxent River. Two railroads intersected the parkway, the Baltimore and Ohio Beltline north of Washington and the Baltimore and Ohio Railroad at Annapolis Junction north of Laurel, Maryland. Fourteen highways required grade separation structures. The northbound and southbound lanes of the parkway were routed over on one structure on all but four bridges.

The bridges were designed by the BPR Bridge Design Office, Division 15, in cooperation with the National Capital Parks Region of the National Park Service. C. D. Geisler, Division Bridge Engineer, and F. W. Berger, of the BPR Design Office designed and prepared plans. William M. Haussmann, Chief, Architectural Section, and landscape architects Domenico Annese and Elwood Rensch provided

¹⁷³ Harris, "Final Construction Report," 18-21. The final construction report did not indicate what action was taken to replace the poor quality topsoil.

architectural advice for the National Park Service. E. L. Tarwater, the BPR Virginia District Engineer, was the general supervisor for bridge construction.¹⁷⁴

As early as 1945, bridge designs for the BWP were on the drawing board. Gilmore Clarke reviewed preliminary plans and recommended simplification. In a letter to Thompson, he noted that the numerous bridges required for the parkway made it feasible and economical to plan a "more or less standardized design" that could be adopted for use throughout the parkway. In reviewing the proposed design for the Good Luck Road bridge, he noted that it had an unnecessary amount of dimensioned granite and masonry. He opined that the plans could be improved and a substantial amount of money saved by simplification. He concluded, "the simpler we make the bridges the better we like them and incidentally the more simple the structures are, the better they stand the test of time."¹⁷⁵

The bridge designs for the BWP were standardized and consisted of three types of bridge construction: continuous concrete girders, rigid frame reinforced concrete arch, and steel girder. Three bridges used a steel girder design, including the Anacostia River Bridge, and grade separation structures at the Baltimore and Ohio Railroad/Annapolis Junction and the northbound Kenilworth Avenue Connection. The remaining grade separation structures were constructed using a rigid frame reinforced concrete arch. The bridges over the Patuxent and Little Patuxent Rivers were built with continuous reinforced concrete girders. All the bridges had reinforced concrete substructures.¹⁷⁶

The bridges' architectural features were varied to give each bridge a distinctive appearance, which made all bridges seem to be one-of-a-kind. Presenting a unique look for each bridge was a parkway feature that had been successfully

¹⁷⁴ Tarwater, "Final Construction Report," 4, 7.

¹⁷⁵ Gilmore D. Clarke, letter to H. S. Thompson, October 18, 1945, in RG 66, Box 27, National Archives.

¹⁷⁶ Tarwater, "Final Construction Report," 7-8, 21, 27, 32, 37, 43, 50, 58, 64, 70, 76, 83, 89, 95, 100, 108, 114.

incorporated along the Merritt Parkway in Connecticut.¹⁷⁷ Bridge designs concentrated on a fine architectural appearance where the bridge was viewed from the parkway. Where the BWP passed beneath a state or county road, stone facing was used on the exposed portions of the bridges. In three cases where the BWP overpassed a road or feature, bridge abutments were also faced with stone, even though parkway drivers did not see it: the Anacostia River Bridge, the Riverdale Road overpass, and the East-West Highway overpass near Beltsville. Stone facing of various colors and sizes was used on the wingwalls, parapets, and arch spandrels. Local quarries in Maryland provided stone in differing hues of brown, gray, and blue. Some were seam and some were split-faced. The stonework was finished with raked joints. On a few structures, the stone facing was comprised of granite from Massachusetts and North Carolina. Dimensioned gray granite masonry trimming from North Carolina was used on arch ringstones, pier ends, abutment corners, and copings.

The stonework construction consisted of building the concrete bridge walls up to the top, removing the concrete forms, and then placing the stonework. The stone facing was installed with steel anchors that were fixed into the stone. The anchors were then fitted into grooved steel slots that had been positioned in the concrete forms prior to pouring. This method securely attached the stone to the concrete wall. In some cases, stone was cut to plans at the quarries.¹⁷⁸

Bridge construction began January 5, 1951 with the Little Patuxent River Bridge. By the end of the year, ten bridge projects were underway. The last bridge was started on July 17, 1953, and all bridges were completed by June 11, 1954. The construction costs of the eighteen bridge projects totaled \$6,620,000, exclusive of engineering costs. The projects also included some grading and incidental road work. Two large box culverts were constructed on each of

¹⁷⁷ Tarwater, "Final Construction Report," 7; Gabrielle Esperdy, "Merritt Parkway," HAER No. CT-63. Historic American Engineering Record (HAER), National Park Service, U.S. Department of the Interior, 1992, 74.

¹⁷⁸ Tarwater, "Final Construction Report," 4, 6.

two bridge projects.

Bridge construction proceeded without major difficulties or material shortages, although there were some delays due to defense priorities and steel strikes. The contractors usually arranged projects to coincide with steel availability, although the BPR noted that this sometimes violated the usual procedures. The major project delays were due to inclement weather. During the winter of 1952-1953, contractors experienced greater than average delays due to rain, snow, and mud.

For most of the bridge construction contracts, bids were taken for an alternate pile foundation. Engineers discovered that piles were required on only about one-third of the bridges. In most cases, where piles were eliminated, the footings were lowered and widened, which usually saved money on the project.

Bridge forms were constructed of prefabricated panels as far as practicable. The forms were placed, braced, and tied using typical construction methods and materials. Contractors used ready-mix concrete, with only one minor exception. Water was added and mixing done after arrival at the bridge site. Hydraulic hydrated lime was added at the rate of six pounds per bag of cement for all concrete used above the footings. The concrete was usually placed with a crane and bucket, and sometimes supplemented by the use of buggies and chutes. Test cylinders were prepared for each major pour. Of 412 cylinders tested, the mean average twenty-eight day compressive strength was 4,508 pounds per square inch. Vibrators were used on all concrete pours in order to obtain a smooth finish. Most of the exposed concrete surfaces were left with a smooth, plywood-formed finish without rubbing. In a few cases, when rough work or patch work was required, a light rubbing was used.

Intermediate grade reinforcing steel was used on the BWP bridges. Each supplier made and submitted detailed shop drawings and bending plans for the bars. The BPR's Division Bridge Design Office checked and approved the plans prior to fabrication and delivery. Samples of various sizes of reinforcing steel bars were collected from the

contractors' stockpiles at project sites for laboratory testing. Tests revealed that the samples met the quality and strength required for bending and tensile specifications. The original tracings, or "vandyke negatives," of shop and bending plans were submitted to the BPR for incorporation into the final "as-built" tracings for each project. The reinforcing steel was delivered without delays, with a few exceptions during the earlier projects subject to defense priorities.

Prior to fabrication, the structural steel suppliers also prepared detailed shop drawings for steel girder bridges. The BPR Division Bridge Design Office also checked and approved of these plans. The BPR used the Inspectors of Naval Materials, which was located near manufacturing plants, to inspect the steel prior to shipment to construction sites. The erection and riveting of steel proceeded in a routine manner and without unusual difficulties. The BPR also included the vandyke negatives into the final "as-built" plans for each project.¹⁷⁹

Concrete Girder Bridges

The first bridge contracts for the BWP were the structures over the Patuxent and Little Patuxent Rivers, the parkways' only continuous concrete girder bridges.

The Brooklyn Engineering Corporation of Baltimore, Maryland was awarded a contract for \$518,296 to build two identical bridges over the Little Patuxent River. The five-span continuous girder reinforced concrete bridges were 446.5' long with 40'-wide roadways. The bridges had concrete parapets with steel handrails.

A temporary bridge was built to facilitate construction. The east bridge was built first. Driving test piles revealed the presence of a hard pan stratum underlying the bridge area. As a result, the alternate pile footings as indicated in the plans were not necessary and the contractor excavated piers and abutments instead. Work during January and February slowed due to rain, snow, and flood conditions.

¹⁷⁹ Tarwater, "Final Construction Report," 4-6.

In April, the Little Patuxent River reached its highest flood stage and affected construction by causing extensive settlement and shifting of the falsework. The upstream row of piles that were driven to support the trestle bents of the west bridge were broken off. The remaining piles were a major factor in keeping damage to reparable proportions. Concrete pouring was also delayed by a flood that damaged some of the forms. Soon after the concrete was poured, the contractor's field office was destroyed by fire. Flooding continued to be a problem and also delayed construction on the west bridge.

The bridges' longitudinal expansion of the roadway slab was facilitated by standard steel expansion devices incorporated into the roadway slab and abutment wall. Girder expansion devices consisted of cast steel rockers and roller assemblies that allowed girders and slab to move between the second and third piers and abutments. The girders at these piers were supported by fixed pedestals that allowed rotary movement by use of a bearing-and-shaft connection.

The final amount of the contract was \$557,102. Over 900 calendar days were needed to complete the contract. Both bridges were complete and ready for final inspection on May 29, 1953.¹⁸⁰

The Patuxent River bridge was also a five span bridge, 447' long. Each roadway was 40' wide and was separated by an 11' median. The concrete bridge parapets had steel handrailings. The bridge was constructed by Allied Contractors, Inc. of Baltimore. The contract award was \$509,465, although the final amount was only \$488,453. The Patuxent River bridge used the same expansion system as the Little Patuxent River bridges.

The Patuxent River project got off to a slow start. Although the contract began in January 1951, it took until August for work to reach "normal proportions." The contractor had been unable to finish previous commitments and could not assign men and equipment to the Patuxent River project on time. Flooding was also a minor factor.

¹⁸⁰ Tarwater, "Final Construction Report," 108-113.

Excavation on the Patuxent River Bridge proceeded smoothly. Based on the materials' reaction to test piles, the contractor elected to excavate the foundation without using the usual sheeting and bracing to prevent cave-ins. This method was successful and made excavation operations easier and faster. The BPR credited the contractor with having an excellent Lima crane that was exceptionally operated and helped expedite work. The operator displayed "astounding" skill. According to Tarwater, he "could handle his machine with the delicacy and precision of a champion bait caster."

By September 1951, the north half of the substructure was complete. To prevent the river from flooding the excavation of the pier on the south bank, the contractor built cofferdams to deflect the river between the piers on the north side. This system worked well, although it had to be rebuilt several times due to flooding. Weather and flooding continued to hamper operations. The contractor wanted to speed operations and get construction out of the ground to avoid further flood damage and delays. Subsequently, some concrete was poured on the bridge approaches under wet and snowy conditions. This undermined the parkway and when heavy mixer trucks used it, they damaged the road. Concrete operations were suspended and resumed when conditions were more favorable. The contractor had to repair the bridge approaches later. The remaining construction operations continued without problems and the bridge was completed on May 7, 1953.¹⁸¹

Steel Girder Bridges

The last of the major bridges on the BWP, the Anacostia River Bridge, was of steel-plate girder construction. The four-span bridge was 513' long and had two 36' roadways divided by a 6' stone-block paved median. The wingwalls and pier ends were faced with granite masonry. The bridge's concrete railing was topped with a steel handrailing. The Chas. H. Tompkins Co. of Washington D.C. was awarded the contract for \$1,459,244. The final amount was reduced to \$1,406,907. The contract began on December 27, 1952 and was completed on May 11, 1954.

¹⁸¹ Tarwater, "Final Construction Report," 89-94.

The contractor began driving test piles in February 1953. The piles reached a tip elevation of -19.00', at which point it was assumed that the tip was in heavy gravel. A temporary bridge to facilitate construction was constructed 80' north of the centerline of the permanent bridge. During April, the BPR project engineer consulted with the contractor's engineers regarding lines, references, locations of substructures, and proposed river widening. As a result, several changes were made to the contract plans. The footing for the east abutment was raised 9' and the width was reduced from 15' to 13'. The footings for piers number two and three were raised 11' and reduced in width from 16' to 12'. No unusual construction problems were encountered and the project was accepted after final inspection in May 1954.¹⁸²

The BPR reported that steel girder construction was chosen for the bridge under the Kenilworth Avenue northbound connection due to the sharp skew angle between the intersecting roads. Under the circumstances, a three-span structure was considered to be more favorable than a single girder span bridge. The main center-span girders were 107' to 116' long, center to center of bearings. The girders of the two end spans were 63' to 65' long, center to center of bearings. The bridge had five main girders in each span, and an expansion dam at each end of the center span. The abutments, piers, wingwalls, and deck were constructed of reinforced concrete. The wingwalls were faced with stone and supported on counterforts. The two piers above the footings consisted of four columns each and were topped with a concrete-cap bridge seat. The clearance between pier columns of the main span was 46' wide, with a vertical clearance of 16'. The overhead roadway was 28' wide, with a 3' sidewalk on the east side and a 1.5' wide curb on the west side. The 8" road slab was superelevated at a rate of 0.06' per foot for a 4° curve over the bridge. The total length of the bridge from end to end of the wingwalls was 388'.

The bridge was built by the Troitino & Brown Co. of Asheville, N.C. for \$303,870. Work began July 1953 and

¹⁸² Tarwater, "Final Construction Report," 8-15.

finished in June 1954. The contractor worked concurrently on the other bridge under the southbound Kenilworth Connection.¹⁸³

The third of the steel girder bridges was built under the Baltimore and Ohio Railroad and Annapolis Junction Road in 1951-1952 by the Contee Sand and Gravel Company. The contract's final price was \$339,512, including \$20,182 that was paid to the B & O Railroad Company.

The grade separation structure over the parkway was a two-span, reinforced concrete and plate girder bridge. The bridge was 224.6' long, end to end of wingwalls. The width of the Annapolis Junction Road was 28'. The railroad side of the bridge had double tracks. There were two clear spans 50' wide over the parkway.

The bridge was faced with granite and local stone. Segreti Brothers was the subcontractor for this project. The stone used was a hard, igneous rock that was cut to size on the job from rough quarried stock. The stone size and color was varied and chosen to produce the effect of "controlled irregularity." Patented stone anchors were used to fasten the masonry facing. The anchors were placed in the mortar joints on 2' centers horizontally and vertically. As the stones were placed, the anchors were locked into the slots in the concrete walls. Mortar joints were given two rakings, with the final raking being a square rake 3/4" deep. The dimensioned masonry for abutment corners, pier noses, and coping came from a granite quarry in Mount Airy, North Carolina. The stone-laying operations were finished before the steel was placed for the superstructure.

The BPR noted that the construction under this contract was unusual because detours were required for both the railroad and the highway traffic. A subcontractor built the detours and moved existing utility lines and poles to the new railroad bed so they would not interfere with construction. B & O Railroad crews moved the double tracks and laid a single set of tracks with the assistance of Army Transportation Corps training crews from Fort Meade.

¹⁸³ Tarwater, "Final Construction Report," 21-26.

No unusual problems were noted during construction, except for a large volume of groundwater during excavations, which had to be pumped. The volume of water increased as the footings were dug and affected the results of the foundation soil load tests. The test loading results revealed that the footing area of the center pier had to be increased to insure against excessive settlement. The footing was redesigned so that the pier walls were increased in width by 8' and increased in thickness by 1'. Another change in the project lowered the parkway grades between Stations 915+00 and 938+00 to gain the minimum overhead clearance of 16' that was requested by the Maryland State Roads Commission.¹⁸⁴

The structural steel for the railroad bridge superstructure was delivered by the B & O Railroad. Advanced planning and a coordinated effort ensured that the steel was unloaded quickly and did not interfere with the normal railroad traffic.

To complete the structure, steel handrails were installed on the highway bridge parapets. After the handrails were set and aligned, there was a difference of about 3" between the top of the northwest wingwall coping and the adjacent steel railing. The contractor corrected the problem by reconstructing the top of the stone parapet to conform to the elevation at the top of the railing. The structural steel elements were painted gray-green, as approved by the National Park Service.

Reinforced Concrete Arch Bridges

Thirteen contracts for reinforced concrete arch bridges along the BWP were executed. Most of the bridges carried both the northbound and southbound roadways. Four contracts required the construction of pairs of bridges, including the intersections at Laurel-Fort Meade Road, Riverdale Road, a county road near Fort Meade, and the Laurel-Bowie Road.

Five projects provided for bridges on the BWP that ran under intersecting highways, including the bridges under Good Luck Road, Defense Highway, Branchville-Glenn Dale Road, the

¹⁸⁴ Tarwater, "Final Construction Report," 115-122.

southbound Kenilworth Avenue connection, and Laurel-Fort Meade Road. Three of the bridges were two-span and the remaining were single span. All the bridges had concrete piers, abutments, and wingwalls faced with stone. In most cases, the projects proceeded without difficulties.

The bridge under the Kenilworth Avenue Connection, like its adjacent steel girder counterpart, was unique because it was built on a sharp skew. The angle of the face of the abutments was about 34° with the centerline of the overhead roadway. The roadway was superelevated. Tarwater commented that the bridge presented "a very neat and pleasing appearance," especially in the lines of the arch. The bridge span was 44'-10" wide and 284' from end to end of the wingwalls. The roadway on the bridge was 24' wide with 5' and 3.5' sidewalks. Troitino and Brown Inc. built the bridge for \$205,786 between March 1953 and April 1954.

The contractor excavated the site and discovered that the ground provided a very firm, hard gravel only a few feet below the surface. As a result, the BPR eliminated the foundation piling for the structure. No money was saved by eliminating the pilings, however, because the contractor had anticipated that no piles would be needed and considered that factor in submitting his low bid. The angle of the bridge required unusual precautions for bracing the arch falsework. BPR bridge designers reviewed the plans and required that additional reinforcing steel be added in the crown of the arch to resist the additional thrust resulting from the skew.

The contractor used his own stone masons to complete the stone masonry facing. Seventy-five percent of the stone work used gray granite from the Mount Airy Granite Corporation in North Carolina. The remainder of the stone was pink granite obtained from the Harris Granite Quarries in Salisbury, North Carolina.¹⁸⁵

Troitino and Brown Inc. also won the contract for the bridge under Good Luck Road. Although the contract was awarded for \$236,879, after extra work, the final cost was increased to

¹⁸⁵ Tarwater, "Final Construction Report," 16-20.

\$270,318. The bridge had two spans that were 55.5' wide. The length of the bridge was 265.9', from end to end of the wingwalls. The bridge was built from April 1952 through July 1952.

Work was hampered by steep embankment slopes on the existing Good Luck Road and heavy rains. At one point, while bridge footings were being excavated, the steep slope and rain combined to cause landslides that threatened the road. The contractor had to reinforce the road before proceeding.

The contractor's stone masons began their work in July 1951 and worked almost continuously until the end of the project. The dimensioned masonry of the wingwall corners at the abutment was laid, braced, and incorporated in the pour for the wingwall's upper section. The dimensioned masonry of the pier noses and abutment corners was laid and concreted in 4' to 6' lifts. The stone facing and parapets of the wingwalls followed the stripping of the forms from each wall. The facing and parapet stone was a fine-textured Weymouth granite, with colors that ranged from a light gray to dark reddish-brown. The stones were sized and colors chosen to conform to the pattern established by the NPS and featured in a sample stone wall. The dimensioned masonry was light gray, Mount Airy granite, which was cut to plan at the quarry.

Other work on this contract included drainage construction. In March 1952, traffic was rerouted over the relocated Good Luck Road. The old road that lay within the parkway right-of-way was obliterated, in keeping with NPS standards that required the landscape be returned to its original appearance.¹⁸⁶

Eight additional contracts for the reinforced concrete arch structures provided parkway bridges over intersecting roads. Most of these projects proceeded without incident or difficulties. All but two bridges were smooth-faced concrete. The BPR did not provide an explanation as to why the abutments of the bridges over Riverdale Road and East-West Highway were faced with stone, even though they could

¹⁸⁶ Tarwater, "Final Construction Report," 58-63.

not be viewed from the parkway. The contracts for Riverdale Road and Beaverdam Road also required the construction of drainage and culverts.¹⁸⁷

Finishing Touches

In addition to the major contracts for grading, paving, and bridges, four contracts were let for miscellaneous work. The total costs for the "finishing touches" was \$207,478.¹⁸⁸

Although landscaping was often a part of NPS post-construction work, and many parkways were meticulously designed and planted, the development of detailed planting plans was not part of the BWP's final touches. The parkway landscape depended heavily on existing roadside vegetation and evolved over the years, largely through the vicissitudes of volunteer growth rather than according to prepared plans. Median areas consisted of existing woodland, volunteer growth, and grassy areas. Plans were drawn for landscaping interchanges in 1955, including Kenilworth Avenue, Landover Road, Defense Highway, and the area south of Jessup Road. The plant list consisted of a variety of trees, including red maple, river birch, American beech, white ash, red pine, eastern white pine, various sumacs, oaks, and others.¹⁸⁹

The first of the miscellaneous contracts was let in 1949 for \$23,990. Although the contract was remedial in nature, it was also designed to provide the parkway with a more finished appearance. Seven firms bid on the contract to round, smooth, topsoil, and seed the cut slopes from Defense Highway to approximately 3,300' north of Good Luck Road. Henckels and McCoy of Philadelphia won the contract and began work in April.

¹⁸⁷ Tarwater, "Final Construction Report," 50, 57, 70, 82. Tarwater's Final Construction Report, included in the appendix, provides more detailed explanations of all the bridges' construction activities.

¹⁸⁸ Harris, "Final Construction Report," 14.

¹⁸⁹ National Park Service, "Baltimore-Washington Parkway Design Elements" (Washington, D.C.: United States Department of the Interior, National Park Service, National Capital Region, 1984), 2; National Park Service, "Landscape Planting, Baltimore-Washington Parkway" (Washington, D.C.: United States Department of the Interior, National Park Service, National Capital Parks, March 1955).

The contract was designed to recondition the roadside that had eroded since the original grading was complete during the mid-1940s contracts. The first requirement for the contract was to round, smooth, and scarify the cut slopes adjacent to the roadway. The topsoil, which had been stockpiled along the right-of-way, was then deposited and spread on the slopes in accordance with contract specifications. After spreading, the contractors removed large stones, clumps of dirt, roots, stumps, and other foreign material. After the ground was properly prepared, fertilizer and ground limestone were applied as specified and thoroughly mixed into the soil. A mixture containing multiple varieties of grass seeds was carefully formulated prior to seeding. After seeding, mulch was spread. The project was completed during the opportune spring planting season and finished on time.¹⁹⁰

Two bids were submitted for a contract to furnish and install traffic signs on the BWP in 1954. The Traffic and Street Sign Company of Newark, New Jersey, won the contract for \$12,300. The project area stretched from the western boundary of Anacostia Park to the Laurel-Bowie Road, a length of 12.125 miles. All signs were manufactured in the contractor's shop. The signboards were constructed of 3/4" Douglas fir plywood and painted as per specifications. Some of the post holes were dug by hand, with others dug by tractor-mounted auger. The posts were Southern yellow pine treated with preservative. Crews began erecting the signs on October 18 and continued work until late November. A change to the contract provided for covering some signs with sheet aluminum alloy of standard commercial quality. The change added \$1,303 to the cost of the project. Final adjustments were made in March 1955. The project was completed on time.¹⁹¹

A contract to furnish and install steel beam guardrail the entire length of the BWP was awarded in September 1954. Five bids were received, with the lowest bid submitted by A. F. Blessing and Son of Newville, Pennsylvania, for \$55,680. Contract specifications required guardrail consisting of a

¹⁹⁰ Harris, "Final Construction Report," 92-93.

¹⁹¹ Harris, "Final Construction Report," 95-96.

BALTIMORE-WASHINGTON PARKWAY

HAER No. MD-129

(Page 106)

12-gauge single steel beam 13" wide, fastened to steel posts made of 6" wide flange H-beams at 8.5 pounds per foot. Work began in late September and continued until inclement weather in November. Work resumed in April 1955. A patented driving rig was used to set the posts into the ground. Specifications called for the guardrail to be painted by hand. The contract was completed on time in the spring of 1955.¹⁹²

The last of the miscellaneous contracts provided for the furnishing and installation of chain-link fence as well as the installation of right-of-way reference posts furnished by the government. The items were placed in specified locations along the parkway. Eight bids were submitted for the ninety-day project in late 1954. A contract for \$89,418 was awarded to Woodbine Nurseries of Baltimore in November. Work began in November and was suspended due to bad weather from January 19 to April 26, 1955. The necessary clearing for the work was done by hand labor using gasoline-powered saws. The chain-link fence post holes were dug by a tractor-mounted rig and posts were set in concrete. The fence wire was stretched and fastened by a block and falls type stretcher, then tied by hand. The fence had gates and accessories, and in some places, barbed wire. After most of the fence had been installed, the contractor began setting the right-of-way reference posts. The posts were 4' high, 4" square concrete posts. They were set 2' deep into the ground at designated points.¹⁹³

OPENING THE BALTIMORE-WASHINGTON PARKWAY

After decades of planning and construction, the first federal section of the Baltimore-Washington Parkway opened on October 28, 1953. The four-mile stretch south of Jessup Road was inaugurated, but not without a hitch. The opening was delayed due to a lack of traffic signs. The signs arrived on time, but when workmen tried to install them, the

¹⁹² Harris, "Final Construction Report," 96-97.

¹⁹³ Harris, "Final Construction Report," 99-100. The final construction report for this project did not indicate when work was completed.

BALTIMORE-WASHINGTON PARKWAY

HAER No. MD-129

(Page 107)

bolts were the wrong size. The signs were installed the day the road opened. As soon as the work was finished, the NPS removed the barriers at each end of the roadway and opened it to traffic. The section between Laurel-Fort Meade Road and Laurel-Bowie was also to have opened, but was postponed for unspecified reasons. The *Evening Star* reported that it would be ready in a few days, although it was not expected to carry much traffic until the entire parkway was ready the following summer or fall.¹⁹⁴

In the autumn of 1954, officials predicted that the entire federal section of the Baltimore-Washington Parkway would open on October 16. District of Columbia highway crews were rushing to complete the New York Avenue connection into Washington. By early October, the paving had been finished, but city crews were awaiting the installation of traffic signs, so the opening was postponed. The NPS began gearing up for their new duties on the parkway by ordering radar equipment for traffic control. Park police noted that the eight-mile section at the north end of the parkway had already been keeping them busy. Park police had issued 168 citations during the previous month, seventy-five of those for speeding. The parkway speed limit was 55 m.p.h., yet police noted that apprehended speeders were traveling closer to 70 m.p.h.¹⁹⁵

The Baltimore-Washington Parkway finally opened after a brief dedication ceremony on October 22, 1954. Some who worked on the project attended, including H. J. Spelman of the BPR, Edward J. Kelly and Harry Thompson of the NPS, and Robert Reindollar of the Maryland State Roads Commission. Representative Fallon spoke briefly, noting that the parkway was "a dream I had five years ago come true." He observed that the parkway was a safe alternate to U.S. Route 1, which he claimed was the most dangerous thirty miles in the

¹⁹⁴ "Baltimore Parkway Leg Open After Delay Caused by Signs," *Evening Star*, October 29, 1953. It is not clear when the second section of road opened, but it was probably opened sometime prior to January 1954, according to George F. Kahne, "Baltimore-Washington Parkway Moves Along," *Evening Star*, [January 31, 1954].

¹⁹⁵ "Baltimore Parkway Link Ready Oct. 1, Officials Predict," [unidentified and undated newspaper clipping]; "District-Baltimore Parkway Opening Delayed Till Oct. 22," [unidentified newspaper, October 8, 1954].

country. The dedication was held on the six-lane New York Avenue extension that passed over the new South Dakota Avenue extension, which was also a connection to the BWP. Spelman maintained that modern engineering could do no more to improve the safety, beauty, and function of the BWP. George Beveridge of the *Evening Star* opined that the parkway was probably the area's finest road. He noted that the New York Avenue overpass and bridge over the Pennsylvania Railroad tracks had "one of the most unusual designs in the area, with 1 1/2-inch aluminum cables and posts serving as guard rails." Beveridge reported that aluminum canopies were installed on the railroad bridge to prevent motorists from throwing objects on the tracks or high-tension wires.¹⁹⁶

Douglas C. Brinkley of the District of Columbia Highway Department reported that 70,866 cars traveled the new parkway during its first weekend of operation. He estimated that an average 17,000 cars would use the new road on a daily basis. Brinkley conceded that many motorists were probably sightseers trying out the new parkway. He also noted that no decrease in traffic had been reported on U.S. Route 1.¹⁹⁷ Brinkley's daily traffic estimate was conservative. Traffic counters were installed west of the Anacostia River Bridge. Only a week after the road opened, traffic statistics reported that over 21,000 cars a day were using the thoroughfare.¹⁹⁸

The success of the Baltimore-Washington Parkway was measured in two ways: time and safety. Shortly after the road opened, reporter Charles J. Yarbrough conducted a test to discover the new route's travel time during rush hour. He noted that traffic was light, but speeding was heavy. Yarbrough observed that the riding surface of the federal portion was smoother than that of the Maryland section. He marveled at the beauty of the ride and the pleasant

¹⁹⁶ George Beveridge, "Parkway to Get Breaking-in By D.C. Drivers," *Evening Star*, October 23, 1954; George Beveridge, "Baltimore Parkway Opens in Full Today To District Traffic," *Evening Star*, [October 22, 1945].

¹⁹⁷ "70,866 Cars Counted Over Week-End on D.C. Link to Parkway," [*Evening Star*, October 26, 1954].

¹⁹⁸ "D.C. Count Shows 21,000 Cars Using New Parkway Daily," *Evening Star*, [October 30, 1954].

sensation it gave him. Yarbrough noticed that curves were gentle and the construction scars almost gone, except for the area near Washington. "Absence of signboards--except the official ones," he claimed, lent "some peaceful dignity." Yarbrough reported that his trip between Baltimore and Washington, during which he observed all speed limits, took a mere thirty-nine minutes. His driving time was twenty-five minutes shorter than another reporter who had driven U.S. Route 1.¹⁹⁹

The new parkway was also measured by the safe driving conditions it created. By March 1955, the Maryland State Police reported that the number of fatalities on the roads between Baltimore and Washington had been cut in half since the BWP opened. During the first two months of 1954, eleven people died on U.S. Route 1. During the same period in 1955, there were only three fatalities on the roads between the two cities. State Trooper Garland R. Walters attributed the improvements to increased patrol work as well as the new parkway. Walters also commented on the nature of accidents on the new parkway, noting that most of them were caused by soft shoulders and medians. He observed that soft roadways were typical along new roads. Motorists became aware of this situation and often parked on a traffic lane rather than the shoulder, where they caused accidents. Walters also blamed speed for parkway accidents, commenting that motorists driving too slowly also caused accidents.²⁰⁰

ADDING INTERCHANGES

When the BWP opened to traffic in October 1954, the Kenilworth interchange was still under construction. The project was predicted to be one of the most complex "traffic mixing bowls" in the area. The interchange was designed to connect the BWP to the Washington Annapolis Freeway and the proposed Kenilworth Avenue Expressway. The interchange would allow traffic to skirt Washington and cross the Potomac River into Virginia. The road would also provide a direct connection to the new East Capitol Street bridge.

¹⁹⁹ Charles J. Yarbrough, "Star Reporters' Race Proves Parkway Saves 25 Minutes," *Evening Star*, [October 24, 1954].

²⁰⁰ "Death Toll Cut in Half Since New Parkway To Baltimore Opened," [unidentified newspaper, March 20, 1955].

Officials expected that most traffic would enter Washington via this route rather than the New York Avenue connection.²⁰¹

Ground was broken for the Kenilworth Interchange connection to the Washington Annapolis freeway in November 1955. The interchange was hailed as the largest project of its kind in Maryland. The Williams Construction Company of Baltimore won the \$2.75 million contract. The cloverleaf included 3.5 miles of roadway and three major bridges.²⁰²

The interchange was completed and opened to traffic on October 25, 1957. Within two-and-a-half months of opening, nineteen serious accidents had been reported on the new facility. Park police attributed the trouble to two problems: carelessness and inadequate street lighting. U.S. Park Police Chief Harold Stewart blamed drivers who failed to obey traffic laws and exercise common sense. The most noticeable problem was excessive speed. He conceded that the project was well-designed, yet pointed out that "obvious improvements" were needed. Stewart noted that two-thirds of the accidents happened after dark and concluded that improved roadway lighting at key turnoff points was needed. The National Capital Parks reported that numerous complaints centered on the interchange's poor signage. Motorists complained that signs were poorly placed and did not provide sufficient notice. Overhead signs were recommended as a solution to this problem.²⁰³

Two more interchanges were added to the BWP in the 1960s. The Interstate 95 interchange was built in 1962. That year, NASA Goddard Space Flight Center Director Michael J. Vaccaro approached the Maryland State Highway Commission regarding adding a bridge and access road for the center. Subject to agency approval, NASA pledged to fund 50 percent of the bridge, estimated to cost \$200,000. Although the

²⁰¹ Beveridge, "Baltimore Parkway Opens in Full Today To District Traffic," *Evening Star*, [October 22, 1945]; "Baltimore-to-D.C. Expressway to Open In About Six Weeks," *Evening Star*, [September 3, 1954], B-12.

²⁰² "Kenilworth Interchange Construction Is Started," [unidentified newspaper, November 4, 1955].

²⁰³ John W. Stepp, "Kenilworth Interchange Accidents Prompt Study," *Evening Star*, [January 3, 1956].

architectural style was to be compatible with the existing structures on the BWP, the steel bridge was out of character with the rest of the parkway. The six-span structure was built with span-steel plate girders and wide flange beams.²⁰⁴

NPS PROPOSAL TO TRANSFER BWP TO STATE OF MARYLAND

Parkway or Freeway?

Well before the Baltimore-Washington Parkway was completed, the National Park Service was considering the possibility of transferring the new roadway and Suitland Parkway to the State of Maryland. In December 1953, Assistant Secretary of the Interior Orme Lewis disclosed that deliberations regarding parkway transfers had been underway for "some time." Lewis reported that the issue was whether the two roads fit the NPS definition of parkways and were therefor an appropriate responsibility for the Park Service. An NPS official claimed that the BWP and Suitland Parkway were "distinctly in the nature of highways requiring none of the specialized services inherent in the National Park Service." Conrad Wirth, Director of the NPS, did not consider the roads to be "true parkways." He defined a parkway in the traditional sense of the word, as a road that connected two or more parks. By this definition, neither the BWP nor the Suitland Parkway met the criteria. Wirth did not even consider the parkways to be in the category of scenic or pleasure roads and charged that they were "deteriorating the real concept of a parkway." He stated that he personally hoped the NPS could get away from this.²⁰⁵

Russell McCain of the Maryland State Roads Commission

²⁰⁴ Michael J. Vaccaro, letter to John B. Funk, March 15, 1962; C. A. Goldeisen, Memo, State Roads Commission, [March 1962], in RG 30, Box 1378, National Archives; Leach, National Register of Historic Places Registration Form, section 7, p. 26.

²⁰⁵ "Interior Wants Maryland To Take Over 2 Parkways," *Times-Herald*, December 4, 1953, in RG 328, Box 127, National Archives; George Beveridge, "Shift of Parkways To Maryland Control Is Studied by U.S." *Evening Star*, [December 3, 1953]; "Interior Pushes Plan to Turn 2 Parkways Over to Maryland," [unidentified newspaper, March 18, 1955]; Harold B. Rogers, "Give Parkways to Maryland, Interior Urges," *Evening Star*, March 1, 1954].

learned about the possible transfer in newspaper reports. In response, he requested that state engineers prepare information on the federal parkway's specifications. The main question for Maryland was whether the federal section of the BWP would be sufficient to handle commercial traffic. The state section of the BWP had always allowed commercial traffic and it was generally assumed that if the state took over the federal section, truck traffic would be allowed to use it. Allen Lee, a research engineer for the State Roads Commission, noted that the federal portion of the parkway had 8" of reinforced concrete over an 11" subbase. The state section of the road was constructed of 10" reinforced concrete. He observed that the geometrics of the federal section were satisfactory, although the interchange ramps were not as well-designed as the Maryland section. Allen concluded that the 8" concrete road was not sufficient for commercial traffic. If the state took over the federal parkway, he warned that it could expect major upgrades and maintenance. The pavement would have to be reinforced with at least 4" of bituminous concrete over the road surface.²⁰⁶ As the discussions continued, it became clear that lifting the truck ban would be certain if Maryland assumed jurisdiction over the parkway. Maryland officials learned that their state had no laws by which commercial traffic could be banned on any roads. Maryland legislators were unsuccessful in several attempts to pass laws that banned trucks from the BWP.²⁰⁷

The debate over transferring the BWP continued for years and revolved around one major issue: the engineering of the federal section. That issue raised questions of economics and whether the parkway could and/or should sustain commercial traffic. For the State of Maryland, accepting

²⁰⁶ Beveridge, "Shift of Parkways to Maryland"; Russell McCain, letter to William F. Childs, December 4, 1953; Allen Lee, letter to William F. Childs, February 8, 1954, in RG 79, Box 1378, National Archives. Although Maryland refers to its section of roadway as a "parkway," many consider it a freeway.

²⁰⁷ "Assembly to Get Expressway Plan to Ban Trucks," [unidentified newspaper], November 26, 1952; "Maryland's Obligation," [unidentified newspaper, January 30, 1955]; "Fight Shapes Up to Defeat Expressway Truck Ban," *Evening Star*, [February 28, 1957]; Theodore R. McKeldin, letter to Roger Ernst, January 20, 1958, in RG 30, Box 1378, National Archives.

the federally constructed section of road meant that a significant amount of money would be needed to upgrade the parkway to handle heavier loads. For Maryland residents and businessmen, the issue of commercial traffic was hotly debated: should the parkway be preserved as is with its truck ban or be transformed into a freeway? For the NPS, parkway engineering was an issue because the state expected the federal government to pay for upgrading the road. In short, if the NPS wanted to rid itself of the road, it would have to find millions of dollars to improve the road so that it could handle commercial traffic. The NPS would need Congressional legislation for funding and to authorize the transfer.

Former Representative Sasscer, who was instrumental in obtaining Congressional legislation for the BWP, immediately spoke out against the transfer. He noted that Congress had authorized the parkway as an extension of the District of Columbia park system. He noted that a transfer would "pretty much defeat" Congress' intent. During the course of the debate over a possible transfer, others noted that congressional intentions would be disregarded if the parkway were given to the state and opened to commercial traffic. Major General Grant objected to the proposal, noting that Congress had authorized the road as a military necessity, thus it should remain under federal jurisdiction. The NCPPC did not object to the NPS desire to get out of the road business, but maintained that the parkway should continue to be within the jurisdiction of a federal agency. At least one NPS employee, Frank Gartside, the assistant superintendent of the National Capital Region, reminded Congress that the parkways were part of the comprehensive plan for the development of Washington and its environs.²⁰⁸

Many citizens strongly opposed the proposed state takeover, primarily due to the likelihood that it would open the BWP

²⁰⁸ George Beveridge, "Pros and Cons Stirred by Idea For State Control of Parkways," *Evening Star*, December 4, 1953; "Parkway Give-Away," [unidentified newspaper, February 5, 1956]; Theodore R. McKeldin, letter to Roger Ernst, January 20, 1958, in RG 30, Box 1378, National Archives; "Federal City Group Stands Firm on U.S. Control of Parkway," *Evening Star*, January 19, 1955; Rogers, "Give Parkways to Maryland, Interior Urges," [*Evening Star*, March 1, 1954].

to commercial traffic. The prospect of truck traffic would bring a host of potential problems. A newspaper editorial observed that the parkway standards were designed

for the specific purpose of keeping the roadside scenery clear of hot-dog stands, beer joints and signs of the type that mar the old Baltimore-Washington pike. Furthermore, Congress indicated that the Baltimore-Washington Parkway was to be for passenger cars only.

Hayward Corman of Baltimore strongly supported restricting the BWP to passenger cars. He warned that the truckers had taken over U.S. Route 1 years ago and would do the same on the new parkway if they were given the chance. He argued that allowing trucks on the BWP would slow traffic and make the road more dangerous. Richard E. Barton, Sr. of the Parkway Estates Citizens Association in Landover, objected to the transfer concept, noting that the road was not built for truck traffic. He observed that truck traffic would endanger cars and also require extensive road repairs, a burden that would have to be assumed by Maryland's taxpayers. An editorial emphasized that if the parkway was transferred, the state should guarantee that it would "respect the purpose" for which it was built and restrict the road to passenger vehicles.²⁰⁹

Residents and businessmen along the U.S. Route 1 corridor enthusiastically approved of the BWP being under state jurisdiction. They wanted to relieve the traffic situation on their road by moving at least a portion of the truck traffic from it and onto the parkway. One resident observed that truck traffic on U.S. Route 1 had tripled during the past three years. She complained that the noise was so loud that it was impossible to hear a sermon in church. M. H. Bargteil, president of the Washington-Baltimore Boulevard Association, charged that the parkway truck ban ignored the needs of area residents. He reminded those who favored the

²⁰⁹ "Go Slow on This Giveaway," [unidentified newspaper], December 5, 1953; Hayward P. Corman, letter to Theodore R. McKeldin, January 9, 1956; Richard E. Barton, Sr., letter to Theodore R. McKeldin, January 17, 1956, in RG 30, Box 1378, National Archives; "Parkway Without Trucks," [American Motorist, February 1956].

ban that U.S. Route 1 was not just a major highway, but the only street that local residents had. Businessmen charged that heavy truck traffic on U.S. Route 1 drove potential customers to use the parkway. Soon after the federal section of the BWP opened, merchants complained that motorists had forgotten the old road and their business declined. They noted that many businesses relied on tourists, most of whom had no reason to take the congested U.S. Route 1 once the parkway opened. Merchants predicted that U.S. Route 1 would soon be used exclusively as a truck route. Residents and businessmen protested that their road would become an endless stream of trucks. They argued that trucks should be permitted on both routes, in order to provide two safe routes rather than one.²¹⁰

The decision whether or not to transfer the parkway from the NPS to the state centered on engineering and economics. For the State of Maryland, the main problem with the parkway transfer was that the federal section of road was considered substandard and the state did not have the required funds to upgrade the parkway. In 1956, Maryland engineers estimated it would cost between \$7 and \$10 million to make the necessary improvements and bring the parkway up to state road standards. Wirth and Thompson met with Maryland officials in May. Wirth proposed preparing a bill for the 85th Congress that would allocate \$2.5 million for Maryland to improve the parkways and take them into the state system. If the NPS and State Roads Commission could come to an agreement, the NPS promised fee-simple title to the right-of-way. Wirth also suggested that between 1,000 and 1,100 acres in Greenbelt might also be transferred, as long as the state agreed to maintain it as a park for twenty years.²¹¹

The NPS and State Roads Commission continued to confer on the subject of a parkway transfer, but no progress was made. Correspondence indicated that the DOI continued to ask

²¹⁰ "Expressway Trucks Up To State, McKay Says," [November 15, 1955]; "Boulevard Residents Oppose Expressway Ban on Trucks," [March 18, 1953]; "Parkway Cuts Profits, Protest Owners on Rt. 1," [December 18, 1954]; "New Parkway Ban on Trucks Stirs Protests," [November 30, 1953]. [These newspaper clippings were unidentified.]

²¹¹ Chief Engineer, memo to State Roads Commission, July 25, 1956; State Roads Commission, memo, May 4, 1956, in RG 30, Box 1378, National Archives.

Maryland to take the road; Maryland responded by refusing to accept the parkway until the federal government improved it to Maryland highway standards. Assistant Secretary of the Interior Roger Ernst again asked Maryland officials for their position on the issue in January 1958. State Roads Commission Chairman Robert O. Bonnell responded that the state remained unwilling to assume the costs of upgrading the parkway to handle commercial traffic. He informed Ernst that the state could not accept the parkway "as is," because state law did not permit a truck ban. After numerous letters were exchanged, the State Roads Commission presented the DOI with a preliminary estimate on road improvements in early 1961. The commission estimated that to "adjust the facility to conform to present practice and standards" would cost \$18.69 million. Activities included resurfacing with 5" of material, removing curbs between Kenilworth and Defense Highway, improving gravel shoulders, and widening the road to three lanes. By May 1962, Maryland's estimate had jumped to more than \$22 million. Secretary of the Interior John Carver, Jr. informed the state that it had already invested almost \$18 million in the BWP and Suitland Parkway. "Under these circumstances," he noted, there did not "appear to be any basis for further discussion as long as this additional expenditure by the Federal Government remain[ed] as a requirement for the proposed transfer." Despite the negotiations being at an apparent dead end, Wirth renewed the federal offer of a road transfer in August 1963, without mention of money or improvements.²¹²

The Impact of Increasing Commuter Traffic

By the 1960s, the Baltimore-Washington Parkway was handling increasing commuter traffic. People complained that the road was not "up to interstate standards." Some of the grumbling regarding the parkway resembled citizens' complaints about U.S. Route 1 twenty years earlier. In 1965, the BWP was labeled as "congested and dangerous," with 478 reported accidents during the previous year. Maryland

²¹² Roger Ernst, letter to Theodore McKeldin, January 14, 1958; Robert O. Bonnell, letter to Roger Ernst, January 28, 1958; David H. Fisher, to John B. Funk, March 27, 1961; John A. Carver, letter to John B. Funk, May 28, 1962; Conrad Wirth, letter to John Funk, August 16, 1963, in RG 30, Box 1378, National Archives.

Senator Daniel Brewster charged that the road was "one of the most traveled and most dangerous limited-access highways in the United States." In 1965, the parkway carried 50,000 cars each day.²¹³

Suggestions for improvement included the addition of a third lane in each direction, which was part of the original road design. Other desired improvements included lighting, signs, roadway edge markings, and adequate deceleration and acceleration lanes. As expected, the stumbling block to improvements was an estimated \$20 million, which neither the NPS nor the State of Maryland said it could pay.²¹⁴

In 1968, the Maryland State Roads Commission proposed that the BWP be designated an interstate freeway in order to finally solve the problem. The NPS was still interested in transferring the road. Maryland was adamant that the road be improved to handle existing traffic. By designating the parkway as an interstate, Maryland would be able to finance 90 percent of the reconstruction with federal funding, rather than the 50 percent available through the regular federal aid program. Maryland's plans included widening the parkway to six lanes, reconstructing fifteen interchanges, and rebuilding the road to accommodate commercial traffic. The state also called for relocating seven miles of parkway near Washington. The estimated reconstruction costs climbed to \$120 million.²¹⁵

The Federal Highway Administration (FHWA) cleared the way for reconstruction of the BWP when the parkway was added to the nation's interstate network in January 1969. The new designation as an interstate meant the road would provide a direct truck route between Baltimore and Washington, as well as a connection from Washington to the northeast. The news

²¹³ Alan L. Dessoff, "Slim Prospect Is Seen Of Improving Parkway," *Washington Post*, September 16, 1965; "Parkway to Get Safety Projects," [unidentified newspaper, August 30, 1967]; Lee Flor, "Brewster Urges Action on Improving Parkway," *Evening Star*, [November 22, 1965].

²¹⁴ Alan L. Dessoff, "Slim Prospect Is Seen Of Improving Parkway," *Washington Post*, September 16, 1965; Lee Flor, "Brewster Urges Action on Improving Parkway," *Evening Star*, [November 22, 1965].

²¹⁵ "State Asks Upgrading Of Baltimore Parkway," [*Evening Star*, December 9, 1968].

was hailed as a solution to area traffic problems. In 1969, the "traffic-clogged" road carried 52,700 cars a day in the section near Bladensburg and 71,000 nearer Washington. The road was so congested at times that traffic was at a complete standstill throughout the entire length of the parkway. Work was scheduled to begin after Interstate 95 was completed, about 1972. In order to start the project, the Maryland State Legislature passed a law that accepted the parkway from the federal government. Jerome Wolff of the Maryland Roads Commission estimated that reconstruction costs would be between \$50 million and \$120 million, depending on how much work was done inside the Capital Beltway. He indicated that Maryland would widen the four-lane stretch inside the beltway to eight or ten lanes.²¹⁶

In early 1971, President Richard Nixon signed the 1970 Federal Aid Highway Bill. The bill authorized \$65 million to improve the federal section of the BWP and provided that it would be transferred to Maryland upon completion.²¹⁷ In 1972, the NPS, Maryland Department of Transportation, and FHWA signed an agreement to reconstruct the BWP to interstate standards, as authorized by the 1970 highway bill.²¹⁸ When the agreement was signed, work was expected to be completed by 1976. By 1974, estimated costs for the project had skyrocketed to \$150 million and work was expected to begin no sooner than 1980.²¹⁹

It appears that there were few, if any, early objections to reconstructing the BWP into an interstate. In 1975, however, an editorial lambasted consultants' plans for the BWP reconstruction. The writer noted that only one option left the parkway at four lanes and improved safety. The commentary was highly critical of the other choices, including an option that widened the road to eight lanes.

²¹⁶ "State Asks Upgrading Of Baltimore Parkway," [Evening Star, December 9, 1968]; Jack Eisen, "Baltimore Parkway Due Federal Aid," Washington Post, [January 18, 1969].

²¹⁷ James B. Rowland, "Interstate Designation Sought For Parkway to Baltimore," Evening Star, [February 7, 1971].

²¹⁸ Federal Highway Administration, "Engineering Study Report," 1, 4, Appendix G.

²¹⁹ Rebecca Leet, "\$150 Million B-W Parkway Expansion," Evening Star, [June 9, 1974].

The writer asked whether "four additional lanes [were] worth the sacrifice of its admirable and attractive median and the tree-buffered roadsides?" The commentator charged that "modernization would be nothing less than a despoilation, a bureaucratic vandalism." The NPS was criticized and accused of gross negligence for accepting "a ravaging of the parkway's splendid pastoral sweep as the price for ridding itself of an inconvenience." The review noted that a number of organizations questioned the need for another interstate that paralleled the new Interstate 95. The writer blamed Maryland officials for being intent on turning one of the area's few roadways with "aesthetic merit" into another "barren concrete apron" like Interstate 95. The commentary recommended that society balance its values rather than become slaves to accommodating the automobile.²²⁰

By 1975, engineers and planners had been working on the redesign for five years and the plan was still not finished. State highway officials indicated that BWP proposals would not be ready until 1979 at the earliest and blamed the delay on too many options, opinions, and objections. Some Marylanders had doubts about the state taking over the BWP. Citizens concerned with aesthetics questioned the wisdom of giving Maryland the road rather than keeping it in the National Park Service. Local communities, including Greenbelt, Cheverly, Berwyn Heights, and Bladensburg, worried that the improved parkway/freeway would be noisier, more dangerous, and full of trucks. They labeled the proposed Baltimore-Washington interstate as the "son of I-95." Other citizens were concerned with the economic drain the new interstate might be on the state's resources. The possibility of reversing the transfer legislation was raised. For Maryland not to take the road would require further federal legislation, something that Representative Gladys Spellman stated she was not willing to do.²²¹

The 1970s planning studies finally narrowed its options from six to three possibilities. The first option was to leave the road as it was, with improvements in signage, lighting,

²²⁰ "Threat to the Parkway," [unidentified newspaper, April 23, 1975].

²²¹ Robert F. Levey, "B-W Parkway: Baltimore-Washington Parkway's Future: Will It Be a Scenic Drive or 'Son of I-95'?" *Washington Post*, December 29, 1977.

and fencing. The second choice would extend the third lane from Washington to the Capital Beltway and from Baltimore to Friendship Airport. The third plan would widen the entire parkway to six lanes. None of the plans would allow truck traffic on the former federal section. The State Highway Administration pledged that it would maintain parkway characteristics. The state and FHWA were cooperating to relax some of the interstate standards. The FHWA had already agreed to allow the stonework to remain on bridges and to keep stone on other bridges designated for reconstruction.²²²

In July 1981, M. S. Caltrider, Maryland State Highway Administrator, informed the National Park Service and the Federal Highway Administration that the State of Maryland would not assume jurisdiction of the BWP. Both agencies were aware of Maryland's decision and had previously accepted it. Caltrider explained that the 1972 agreement provided that the state would take the road after it had been reconstructed to an "acceptable physical standard," which was an interstate design. Although he did not explain the course of events that transpired over the years, Caltrider mentioned that the planning studies evolved so that the agencies agreed to maintain the "parkway character," not pursue a freeway design. He asserted that the parkway reconstruction studies made it clear that \$65 million would not be enough to fund the project. He estimated that reconstruction would instead cost between \$200 and \$300 million. Caltrider disclosed that there was concern over spending so much when Interstate 95 was in close proximity. In addition, the State of Maryland was experiencing severe financial constraints and could not guarantee that it would be able to maintain the parkway character in the future. He noted that the state already had a tight operating budget and it was difficult to maintain other roads and roadsides. He pointed out that the NPS had problems keeping up with their maintenance responsibilities along the BWP. Caltrider pledged the state's continuing cooperation along the BWP corridor. He concluded by asking that the NPS and FHWA consider several BWP interchanges, Maryland Routes 32, 197, and 410, in

²²² Levey, "B-W Parkway: Baltimore-Washington Parkway's Future," *Washington Post*, December 29, 1977.

future plans.²²³

PLANNING REHABILITATION

In early 1983, the FHWA began an engineering study of the Baltimore-Washington Parkway to identify the improvements required to rehabilitate the parkway for continued operation under the National Park Service. Congressman Steny Hoyer requested the study, which would assist with legislation needed to keep the parkway under the jurisdiction of the NPS and provide rehabilitation funds. The engineering analysis was a cooperative effort between the National Park Service, Federal Highway Administration, and the Maryland State Highway Administration. The goals were to identify problems with road design and the deterioration of structural elements. It made recommendations concerning pavement, shoulders, safety, bridges, and interchanges. The agencies did not agree on the solutions to all problems, but all options were reviewed, and solutions proposed. The total cost for rehabilitation was estimated at \$96 million.²²⁴

Design Problems

The FHWA began its study on the premise that no improvements would be made for the sole purpose of increasing parkway capacity. Design criteria included speeds of 60 m.p.h. for the mainline and 30 m.p.h. for ramps. The designs for new bridges were to attempt to incorporate the stone work character of the original bridges and be modeled on the structures at Defense Highway and Fort Meade Road. Barriers and guardrails were to be approved by the NPS and be designed to maintain the parkway character. Guardrails were to be minimized by utilizing grading, mounding, or other techniques that eliminated roadside hazards. The study recommended lighting that maintained a parkway character and landscaping that enhanced parkway aesthetics. The NPS requested that the study consider the use of mountable curbs

²²³ M. S. Caltrider, letter to Manus J. Fish, Jr. and Emil Elinsky, July 28, 1981, in "Baltimore-Washington Background Package," file from Greenbelt Park Records.

²²⁴ FHWA, Engineering Study Report, iii-iv, vi.

throughout the length of the parkway.²²⁵

The engineering analysis of the BWP concentrated on identifying parkway design elements that did not meet current American Association of State Highway and Transportation Officials (AASHTO) safety standards. The study admitted that the main problem on the parkway was traffic volumes that were at or near capacity. Contributing to the problems caused by heavy traffic were poor ramp geometries, narrow horizontal clearances at bridges, and crossroads that could not handle the heavy volume of traffic on the parkway. In analyzing the problems, the FHWA also considered that rehabilitation would need to accommodate anticipated increases in traffic.

The FHWA concluded that interchange design was the most significant factor contributing to overall congestion and safety issues on the BWP. The study noted that each interchange had a different design configuration, which added to the uniqueness of the parkway, but also contributed to operational problems. Data analysis determined that most accidents happened near interchanges as a result of the poor geometric design of ramps. Interchange problems were compounded by extremely heavy traffic volumes. In many cases, the bridges at interchanges did not have enough lanes to handle traffic volumes. Accidents occurred during peak travel times when on-ramps or off-ramps were clogged with vehicles and the backup stretched onto the mainline of the parkway. The greatest single cause of accidents was "driver inattention." Drivers failed to notice the backed up traffic at the ramps and rear-end collisions were the result. In general, most of the ramps were determined to be of insufficient length to allow traffic to safely exit or enter the parkway. As an example, the FHWA observed that the acceleration lane on the southbound Kenilworth Avenue was so short that it had a stop sign on the parkway. On some ramps, sight distance was so limited that drivers could not see that traffic ahead was stopped. The FHWA discovered that some cloverleaf ramps had curves that were too sharp and did not meet the 240' minimum required by AASHTO standards. Minor improvements were suggested for all

²²⁵ FHWA, Engineering Study Report, 8-9.

interchanges, including lengthening acceleration and deceleration lanes, regrading ramps to improve sight distance, and adding ramp lanes to permit additional vehicle "storage" during peak hours. Major redesign and reconstruction was recommended for Fort Meade Road, Laurel-Bowie Road, Greenbelt Road, and Riverdale Road.²²⁶

Bridge abutments were considered a major hazard along the BWP. The study noted that all bridge piers and abutments had guardrails that directed errant vehicles back onto the road. In most cases, the FHWA observed that the abutments were too close to the road's outside lanes and did not allow for the full shoulder width of the road. In some cases, there was not enough space to carry acceleration lanes under the bridge, which resulted in lanes that were too short. The FHWA maintained that all bridge piers and abutments should allow for a minimum shoulder width as well as acceleration lanes to be carried through where possible. The proposed solution for the bridge abutment problem was straightforward: shift the roadway toward the median. Since the parkway was graded for three lanes, shifting the roadway could be easily accomplished. The FHWA asserted that drivers would be better protected if a concrete barrier replaced the steel guardrails along bridge abutments and piers.²²⁷

The median in many areas of the parkway also presented a design flaw according to modern standards. The area between Washington, D.C. and Defense Highway was especially problematic, where the median was as narrow as 6'. Vehicles crossing the narrow median caused head-on collisions. Headlight glare was also a problem in these areas. The study recommended installing a concrete barrier to replace the old median barriers on the section from Washington to Defense Highway. The FHWA noted that the barriers could be aesthetically designed to maintain the parkway's character and could also be topped by glare screens. In areas where the median was wider, landscaping or regrading the median was advised to help reduce vehicle crossovers.²²⁸

²²⁶ FHWA, Engineering Study Report, 9, 15, 61, Appendix A, iv.

²²⁷ FHWA, Engineering Study Report, 18, 20.

²²⁸ FHWA, Engineering Study Report, 16-17.

The parkway's trees were considered a significant roadside hazard, according to FHWA engineers. More than 22 percent of accidents on the parkway in 1982, including one fatality, involved collisions with fixed objects, namely trees adjacent to the roadway. Trees were as close as 10' from the pavement edge. Another problem with roadside trees was that they blocked sunlight that helped melt ice and snow during the winter. The engineering study recommended that trees should be cleared to at least 30' from the pavement edge in all locations where clearing would not impact the parkway character of the road. It was permissible to keep the tree line closer to the road along steep side slopes or tangents. The report recommended examining individual trees in the median to determine if they were safety hazards that should be removed. A landscaping plan was recommended to help eliminate as many obstacles as possible while also preserving the parkway environment.²²⁹

FHWA engineers strongly objected to the curbs along the road between Washington and Defense Highway. Curbs were blamed for accidents because drivers would park on the roadway rather than drive over the curbs and onto the shoulder. North of Defense Highway where there were shoulders rather than curbs, there were fewer accidents resulting from disabled and parked vehicles. The FHWA emphasized the safety importance of shoulders, even though curbs were aesthetically more pleasing. Curbs were considered an obstacle that could damage steering mechanisms and cause a loss of vehicle control. Curbs impaired emergency vehicle access and the flexibility for cars to move around stalled vehicles. It was difficult to push a car off the road as well. The FHWA observed that the soft turf behind the parkway curbs was not up to standards and tended to slow cars, which resulted in drivers' loss of control. Drainage problems were aggravated by curbs during heavy rain as water had a tendency to build up on the road, causing cars to hydroplane. The study recommended removing the curbs, noting that the greatest cost-benefit item in highway safety came from adding shoulders to a road.²³⁰

²²⁹ FHWA, Engineering Study Report, 21-22.

²³⁰ FHWA, Engineering Study Report, 20-21.

Other issues highlighted in the FHWA study were sign design and lighting. The FHWA maintained that the signs were generally adequate, but needed improvement at major interchanges, including New York Avenue at Bladensburg Road, Landover Road, and Defense Highway. The FHWA wanted a signage plan that would upgrade the entire system and include overhead signs at these interchanges. The study also recommended improved lighting at major interchanges. It noted that the parkway was already lighted between the Washington boundary and Landover Road. The FHWA asserted that high rates of nighttime accidents, complicated interchanges, and "conflicting traffic movements" necessitated improvements. Under normal circumstances, the FHWA would recommend a lighting system from Greenbelt Road south to Washington. It conceded, however, that the importance of maintaining the parkway character would allow the flexibility for limited lighting improvements. The limited areas were between Defense Highway and New York Avenue and the Interstate 95/Greenbelt Road interchanges.²³¹

Structural Problems

Structural problems due to deterioration and nearly thirty years of heavy traffic were detailed in the FHWA engineering study. The report analyzed problems with pavement, guardrails, and bridges.

The parkway's pavement was rated as generally good, although the riding quality had deteriorated significantly during the past few years. The report noted that the original 8" of reinforced portland cement concrete was covered with approximately 3" of bituminous concrete in 1974 and 1976. The poor riding quality of the road was due to the heaving of bituminous concrete patches in the reinforced concrete pavement, which was caused by the 1970s work. There was also cracking and minor heaving and raveling in the overlay at the road's transverse joints. The shoulders were noted as being in "generally fair to poor condition," with a number of failures due to loss of the thin pavement.

Various pavement repair strategies were proposed, including

²³¹ FHWA, Engineering Study Report, 16.

minimum maintenance, rehabilitation, and reconstruction. The first option would remove the previous repairs to a depth of 2" and overlay the pavement with an additional 2" of bituminous concrete and 3/4" of open-graded friction course. The shoulders would be regraded and overlaid with 2" of bituminous concrete and a bituminous surface treatment. Maintenance over the next twenty years would require resurfacing every seven years and patching in the shoulder area. The benefits of this option were minimum maintenance, a low initial cost, and minimal traffic disruptions. Over the long term, however, this choice had high maintenance costs, more frequent maintenance and traffic disruptions, and would offer a poor quality ride between scheduled maintenance.

The second option, rehabilitation, had two methods. The first approach proposed to remove the heaves and patch with portland cement concrete as needed, which was an expected 518 locations. The roadway's most recent pavement (3" laid in the 1970s) would be recycled and relaid, or laid with 5" of additional bituminous concrete. This rehabilitation would have a relatively low initial cost, would cause little inconvenience to traffic, have potentially low maintenance, and would provide a good ride quality. This solution was problematic because the FHWA could not predict whether other pavement joints would heave and cause future problems. The other rehabilitation option was to dig out the heaved pavement and replace it with portland cement concrete. The roadway would then be overlaid with 8" of continuously reinforced concrete pavement. This solution was considered to be potentially long lasting and low maintenance. This rehabilitation option was a problem because the FHWA could not predict its long-term performance and maintenance needs. This solution would raise the pavement grade significantly, which would reduce the bridge clearances and require substantial shoulder work. It was also a very costly solution to the BWP's pavement problems.

The final option, reconstruction, could be achieved in several ways. One method would remove the existing pavement and lay a roadbed consisting of 10" of subbase, 6" of bituminous concrete base, 4" of bituminous concrete pavement, and 3/4" of open-graded friction course. The

reconstructed shoulders would have a 16" aggregate base and 4" of bituminous concrete. Another reconstruction method could be done by removing the existing pavement and laying a new portland cement concrete roadbed. The new pavement would be 10" of portland cement concrete on a 6" layer of bituminous-treated permeable membrane base. The road would have a continuous pavement edge drain. The shoulder would consist of 11.5" aggregate base and 4" of bituminous concrete pavement. Both reconstruction options would provide for long term pavement solutions, but were very expensive and would have a significant impact on traffic during reconstruction.²³²

The FHWA evaluation of the guardrails along the BWP indicated that most were in compliance with federal standards for metal beam guardrail. Some sections on ramps were not in conformance. The FHWA confirmed that guardrails had been installed in the appropriate locations. The study estimated that 2,000' of guardrail needed replacement due to deterioration or damage from impact. It anticipated that 25,000', or 50 percent of the parkway's guardrail, would need replacement during rehabilitation due to construction impacts or general deterioration. In order to maintain visual quality, the FHWA noted that all 50,000' of guardrail would have to be replaced. The design criteria called for metal beam guardrail painted brown and mounted on wood posts.²³³

The FHWA study of the BWP bridges revealed that four needed to be completely replaced, five required full restoration, and twelve required partial restoration.²³⁴ General bridge problems included deteriorating substructures with large cracks in the abutments and piers. There were also cracks in some of the wingwalls and superstructures. Other problems included deteriorated decks, rusting steel girders, exposed rebar, spalling, efflorescence, heavy vegetation, and erosion around the wingwalls. Railings on every bridge did not meet AASHTO standards and almost all needed replacement. Steel railings were rusting, broken, and

²³² FHWA, Engineering Study Report, 23-26, 31-36.

²³³ FHWA, Engineering Study Report, 8, 17.

²³⁴ FHWA, Engineering Study Report, 54.

missing in some places. The report recommended replacing railings with concrete parapets that met federal standards. Steel railings on the parapets were to be replaced and used for aesthetic purposes only.²³⁵

The bridges over the Patuxent and Little Patuxent Rivers needed complete restoration, including replacing the decks and restoring the bearing assemblies. Deck rehabilitation and general repairs were advised for the bridges at Laurel-Bowie Road, Beaverdam Road, Good Luck Road, Riverdale Road, Defense Highway, Landover Road, and Bladensburg Road. Bridges requiring replacement (and also recommended for widening) were those at Annapolis Junction, Fort Meade Road, and the north side of the bridge at Greenbelt. In addition, the bridge at Riverdale Road was suggested for widening. The bridges recommended for widening were also interchanges that experienced the heaviest traffic congestion and accidents. Several bridges were suggested for removal, including the structures under the abandoned Baltimore and Ohio Railroad at Annapolis Junction and the bridges over the apparently unused Laurel-Fort Meade Road. The bridges over the Capital Beltway and at the NASA entrance were relatively new and needed no work.²³⁶

NPS Design Standards

In early 1984, the NPS issued its recommendations for design elements on the Baltimore-Washington Parkway. A major concern for the Park Service that disagreed with FHWA recommendations was the shoulder treatment. Another prominent NPS concern was barriers. Minor disagreements were signage and lighting.

The NPS maintained that parkways should have a clear delineation between the pavement edge and grassed shoulders in order to distinctively frame the scenic quality of the road. Just as a frame enhanced a painting, the elements that framed a road could enhance the appearance of a parkway. The shoulder edge strip was viewed as a defining element in the travel surface that established the parkway's

²³⁵ FHWA, Engineering Study Report, 17-18, 54, Table V-2.

²³⁶ FHWA, Engineering Study Report, 54.

identity. The NPS acknowledged the safety requirements of modern roads, but stressed that safety and beauty could achieve a complementary balance. The Park Service noted that 3' wide inside shoulders and 8' wide outside shoulders demanded by federal standards significantly increased the pavement width, which diminished the "framing effect" of the surrounding vegetation. A wider road allowed the pavement to dominate the landscape rather than to be a ribbon through it. Paved shoulders failed to define the delineation between the travelway and the shoulders. The George Washington Memorial Parkway (GWMP) was used as an example of how the BWP could be reconstructed. The GWMP effectively used mountable curbs not only for drainage, but as a framing element.

For pavement, the NPS suggested a variegated surface with brown tones as preferable to the standard "black-top" appearance. It recommended the shoulder edge strip be textured, colored concrete along both sides of the roadway. The NPS advised that the shoulder texture and color be carried through the interchanges, ramps, gores, turnarounds, and islands to ensure design continuity. A full 3' shoulder was also suggested for the interchanges. The NPS recommended 5'-wide turf shoulders beyond the concrete strip, which would have a fully stabilized sub-base to ensure year-round stability.²³⁷

The NPS was extremely concerned with barriers as a design element. The Park Service maintained that no barriers were acceptable where a reasonable alternative was available. For bridge abutments, a significant problem noted by the FHWA report, the NPS asserted that modifications should use masonry faced concrete barriers compatible with the bridge design. For other necessary barriers, the NPS agreed with the FHWA that topographic contouring was the preferred means to provide a safe and aesthetically pleasing barrier. Where barriers were necessary, the NPS strongly recommended the use of masonry-faced concrete wall. The walls would be similar to the New Jersey type barrier, with a relatively smooth, stone-faced finish with 1/2" raked joints. The stone work would be similar in texture and color to the

²³⁷ NPS, "Baltimore-Washington Parkway Design Elements," 4-13.

stone masonry-faced bridges along the parkway. The NPS maintained that this method would solve the problem in the areas with narrow medians and also provide for design variety.²³⁸

The NPS and FHWA developed a Memorandum of Agreement that the parkway signs would be in compliance with national standards. The NPS disagreed with the FHWA on the use of overhead signs and recommended them only "under the most unusual circumstances." The Park Service wanted to keep informational signs on exits wherever possible, rather than on the main parkway. It stressed that by improving post-mounted signs, the need for visually intrusive overhead signs could be eliminated.²³⁹

The NPS and FHWA were not in accord on lighting for the parkway. The Park Service maintained that the "optimum solution" would be to eliminate lighting because of its intrusive nature. Light poles were intrusive by day as they "violated" the skyline and landscape of the parkway. By night, lights created an interstate appearance that detracted from motorists' experience of driving through the natural environment. The NPS agreed that existing lighting could be replaced and recommended low-profile brown standards more in line with park road design. For all other cases, the Park Service recommended using reflective devices and improved directional signs as a way to eliminate the need for additional lighting.²⁴⁰

Precast Concrete Barriers

The NPS and FHWA agreed that improving roadside barriers was perhaps the most important safety factor in parkway rehabilitation. NPS design elements had emphasized the desire to use natural materials for barriers. Both agencies agreed that the continued use of W-beam guardrail painted white was not desirable from an aesthetic point of view. As a result, the agencies cooperated in developing and safety testing several types of aesthetic barrier designs. Although the NPS had originally believed that wooden

²³⁸ NPS, "Baltimore-Washington Parkway Design Elements," 15-17.

²³⁹ NPS, "Baltimore-Washington Parkway Design Elements," 21-22.

²⁴⁰ NPS, "Baltimore-Washington Parkway Design Elements," 22-23.

guardrails were not safe, a steel-backed timber guard rail was developed that met safety guidelines. More importantly for the BWP, the agencies cooperated to develop a stone masonry barrier that was both aesthetically pleasing and met safety standards. The stone masonry barrier cost between \$200 and \$250 per linear foot, as compared to concrete Jersey barriers at \$50 per linear foot and W-beam guardrail at \$20 per linear foot. The NPS approved the stone masonry barrier as being aesthetically appropriate for the BWP, even though its cost was considered prohibitive.²⁴¹

When the masonry-faced barrier proved to be too expensive, the FHWA assisted the NPS in developing an alternative by awarding a contract under its Coordinated Technology Implementation Program. The contract provided for research and manufacture of a concrete guardwall alternative in 1986. FHWA Division Engineer Gary Klinedinst noted that both the NPS and FHWA were skeptical that an acceptable concrete substitute could be developed. The Smith-Midland Corporation of Midland, Virginia, won the contract to produce 100' of experimental precast concrete guardwall. The design was developed in a joint venture with MG Architectural Products of Milford, Virginia. Smith-Midland was instructed to produce two 10' sections of wall. If the wall designs were acceptable to the NPS, 80' of wall would be manufactured for crash-test experiments. A section of the bridge at Fort Meade Road was used as the model for the contract. Lou DeLorme and Harry Sloat of the National Park Service advised the contractors.

The contractor made clay imprints from the selected section of bridge. The imprints were used to produce molds for casting individual stones and then to produce a 10' section of rubber-form liner. Sample color and texture panels were made and compared on site with the bridge stonework. The first 10' section was transported to the bridge for

²⁴¹ Gary L. Klinedinst, letter to Roger Longstreth, March 31, 1989, 2, from the files of the FHWA, Eastern Federal Lands Highway Division office in Sterling, Virginia. Klinedinst noted that the steel-backed timber guardrails would be used on the majority of general NPS road projects, whereas the stone masonry barriers were to be used on parkways in the Washington D.C. area. Some of the ramps on the BWP do have the steel-backed guardrails.

comparative review as well. Modifications to the original 10' section included pigment changes and the depth of the relief on the wall. The granite coping was considered a "perfect match." In July 1988, the two joined 10' wall sections were presented for review by the National Park Service and the FHWA. Officials were able to compare the precast concrete wall on site at the bridge. They unanimously approved the 20' section of wall.²⁴²

After the design was approved, the barrier wall was subjected to crash tests. In 1988, a full-size sedan traveling 60 m.p.h. crashed into the wall at a 25-degree angle. Another test drove a Honda Civic into the wall at a 20-degree angle at 60 m.p.h. Both tests were considered a complete success and left only a small scratch on the wall. The cars were totaled, but did not ricochet off the wall, which was considered an ideal condition because the vehicles did not reenter the traffic lanes and cause the possibility of another collision.

As a last step in approving the new barrier, the FHWA analyzed the life-cycle costs of both the precast concrete barrier and the masonry-faced guardwall. The study scrutinized the costs of initial installation and maintenance over an estimated eighty-year life span. It concluded that the precast concrete barrier would be equal to -- if not better than -- the masonry-faced wall if its initial costs were only 10 percent cheaper. The report calculated that the initial costs could be as high as 55 percent less by using the precast concrete barriers. These cost studies were significant, as the barriers were expected to be a major cost in parkway rehabilitation. The FHWA estimated that rehabilitation would require 56,000' of barriers.²⁴³

²⁴² Klinedinst letter, March 31, 1989, 2; "Artificial Stone Wall Report," no author or date, 2-3, in the "Artificial Stone Barrier Wall Binder" in Greenbelt Park files.

²⁴³ "Artificial Stone Wall Report," 3-4; Klinedinst letter, March 31, 1989, 3; FHWA, Federal Land Highway Quality and Planning Workshop, Precast Concrete Guardwall, March 1992, ([Virginia]: Department of Transportation, Federal Highway Administration, Eastern Federal Lands Highway Division, 1992) from the FHWA Eastern Federal Lands Highway Division office files.

Although the NPS and FHWA believed they had found the perfect aesthetic and engineering solution for the barrier problem along the BWP, the Advisory Council on Historic Preservation (ACHP) disagreed. In March 1988, the Baltimore-Washington Parkway was determined eligible for the National Register of Historic Places. As a result, the Maryland State Historic Preservation Office and the ACHP were permitted to review the design plans for the BWP rehabilitation. In 1988, the ACHP reviewed the final plans for BWP improvements. It concurred with the NPS and FHWA that the proposed plans would have no adverse effect on the historic parkway. The ACHP noted, however, that it was particularly concerned about one aspect of the project, the precast concrete barriers. The ACHP requested that the NPS solicit bids on the project for both "authentic" stone masonry barriers and the precast concrete alternatives. The ACHP wanted bids to determine whether the precast concrete barriers were, in fact, more cost effective.²⁴⁴

The ACHP explained its concern over both proposed guardwall designs, noting that the masonry-faced walls and precast concrete barriers were a departure from traditional parkway aesthetics. Both designs, according to Don Klima, introduced "to a historic setting new elements that purport to be historic." He objected to the precast concrete walls that were formed in sections that did not curve, but were angled at the expansion and contraction joints. The fact that the walls had a repeating pattern every 30' and would be angled where the roadway was curved, announced the artificial nature of the material. Klima asserted that the masonry-faced barriers were less objectionable, as the natural stone blended with the original parkway elements. The natural stone guardwalls, Klima determined, more fully realized "the road's character as a parkway and as a ceremonial entrance to the nation's capital." The ACHP decided that the stone masonry guardwalls blended traditional and modern design in a manner that met the *Secretary of the Interior's Standards for Rehabilitation*.²⁴⁵

²⁴⁴ Don L. Klima, letter to Gary Klinedinst, December 12, 1988, 1-2, from the Advisory Council for Historic Preservation files, Washington, D.C.

²⁴⁵ Klima to Klinedinst, December 12, 1988, 2-3.

In February 1989, the ACHP signed a Memorandum of Agreement with the Maryland State Historic Preservation Office, the NPS, and the FHWA, which noted that the agencies had complied with Section 106 of the National Historic Preservation Act. The NPS and FHWA were warned that the use of an artificial stone finish could compromise the features that made the BWP eligible for the National Register of Historic Places. The agreement stipulated that bids were to be solicited for both design alternatives, the precast concrete barriers and the masonry-faced barriers.²⁴⁶

Other objections to the artificial stone barriers were raised by the Committee of 100 on the Federal City. The organization noted that the BWP was a major environmental asset to the Washington metropolitan area and of considerable historic significance. It asserted that artificial stone was out of character with the parkway's naturalistic appearance and urged the NPS to install a wall with stone veneer if it insisted on using walls. Chairman Richard Longstreth maintained the artificial stone "would be highly detrimental to the parkway's character, appearing as a cheap and rather comic surrogate."²⁴⁷

1990s REHABILITATION

The rehabilitation of the Baltimore-Washington Parkway was divided into three sections. Section A ran from the Washington, D.C. line to the Capital Beltway. Section B was between the Beltway and the Patuxent River. Section C stretched from the Patuxent River to Jessup Road. Design contracts were awarded to engineering firms for each section. The NPS was responsible for preparing the landscape design.²⁴⁸

²⁴⁶ Don L. Klima, letter to Gary Klinedinst, February 9, 1989, with attached Memorandum of Agreement, from the Advisory Council for Historic Preservation files.

²⁴⁷ Richard Longstreth, letter to Gary Klinedinst, February 21, 1989, from the files of the FHWA Eastern Federal Lands Highway Division office.

²⁴⁸ Federal Highway Administration, Status of Baltimore-Washington Parkway Rehabilitation Projects, February 9, 1993, 3. "Baltimore-Washington Parkway Information" binder, Greenbelt Park records.

Rehabilitation work began in the early 1990s.²⁴⁹ It included shifting the traffic lanes to provide additional lateral clearance under bridges, installation of mountable concrete curbs along the entire length of the parkway, new culverts, installation of artificial stone guardwalls, and pavement rehabilitation. Work also included the repair or replacement of bridges as well as the reconstruction of interchanges.

Pavement rehabilitation consisted of removing 1 1/4" of previous asphalt surface and excavating the shoulders. The shoulders were laid with 12" of granular topping and approximately 6" of gravel. The roadway was paved with several layers of asphalt concrete, including a leveling layer, tack coat, and 1 1/2" smooth surface coat.²⁵⁰

A landscaping plan was also part of the BWP rehabilitation. The NPS designed the landscape plan and the first contract was planned for 1993. The second contract was to be completed in 1995. The NPS landscape design concentrated on achieving low maintenance. It incorporated planting wildflowers and grass that would require mowing only once a year. The engineer's estimates for the landscaping work totaled \$4 million.²⁵¹

In 1990, rehabilitation work included construction of an access road from the BWP to the National Security Agency, which cost \$4.6 million. In 1991, work continued with the first parkway pavement rehabilitation project, which stretched from Kenilworth Avenue to just south of Riverdale Road. The Patuxent Bridge was also reconstructed that year, a project that amounted to \$4.3 million.²⁵²

In 1991, *Construction* magazine featured the work of Concrete

²⁴⁹ National Park Service, News Release, July 5, 1995. "Baltimore-Washington Parkway Information" binder, Greenbelt Park records.

²⁵⁰ "Baltimore-Washington Parkway." HAER No. MD-129. Historic American Engineering Record (HAER), National Park Service, U.S. Department of the Interior, 1999, sheet 6 of 10.

²⁵¹ "Status of Baltimore-Washington Parkway Rehabilitation Projects," February 9, 1993, 2; "Baltimore/Washington Parkway, Ground Cover Treatment Landscape Plan," October 1990.

²⁵² "Status of Baltimore-Washington Parkway Rehabilitation Projects," 3.

General Inc., of Gaithersburg, Maryland. The company was installing a two-mile section of the precast concrete, artificial stone barriers along the BWP. The \$10 million contract for approximately 12,000' of wall extended south from the Capital Beltway to a point just north of Riverdale Road. The precast units were supplied by Back River Supply in Baltimore and the Smith-Midland Company that had designed the barriers. A shallow trench was excavated for each unit and laid with a compacted crushed stone base. Each 10' unit weighed a ton. The sections were delivered on a flatbed truck and installed with a Koehring crane. Other contract work included repairing the bridge at Good Luck Road. The bridge deck and parapets were replaced and new stonework was applied to the concrete arch. Storm drains were also installed along the length of the project.²⁵³ The work was completed in 1992 at a final cost of \$10.3 million. The rehabilitation of the Little Patuxent River Bridges, which cost \$2.7 million, was also completed that year.²⁵⁴

By 1993, the reconstruction of the Greenbelt Road interchange was 57 percent complete. The project began in August 1991 and was expected to finish in May 1994. The final cost estimate for the project was \$7.4 million. The \$10.9 million rehabilitation work between Interstate 95 and Laurel-Bowie Road was 8 percent complete in February 1993 and expected to be finished in July 1994. Work was also underway between Laurel-Bowie Road and Jessup Road. The contract was for \$12 million and was 5 percent finished in early 1993 with an expected completion date of August 1994.²⁵⁵

In early 1993, the final design work was being finished for the Kenilworth, Defense Highway, and Landover Road interchanges. The engineer's estimate for the projects was \$15 million. Advertisements for bids were expected to go out in the spring of 1993. The design for the reconstruction of the Laurel-Bowie Road interchange was

²⁵³ Jerry Smith, "Parkway Gets A Face Lift," *Construction*, October 14, 1991, 10-12.

²⁵⁴ "Status of Baltimore-Washington Parkway Rehabilitation Projects," 3.

²⁵⁵ "Status of Baltimore-Washington Parkway Rehabilitation Projects," 3.

underway in 1993, with an expected cost of \$24.6 million. The Maryland State Highway Administration was cooperating on that project by coordinating a right-of-way acquisition that was expected to cost \$2 million. The final paving project for the BWP was estimated to amount to \$4 million and be finished in fiscal year 1995. The revised estimates for all parkway rehabilitation, based on 1993 dollars, was \$154.5 million.²⁵⁶

Bridge and interchange work inside the Capital Beltway began in July 1995. Bridges were reconstructed at Kenilworth Avenue, Defense Highway (now called Annapolis Road), and Landover Road. Interchanges reconstruction included new guardwalls, new pavement, new lighting, improved acceleration and deceleration lanes, widened shoulders, and new landscaping. The contract for \$18,286,790 was awarded to Flippo Construction Corporation of Forestville, Maryland. The work was expected to be completed in September 1996.²⁵⁷

During the summer of 2000, a new bridge on the northbound roadway at Laurel-Bowie Road was under construction.

CONCLUSION

The 1990s Baltimore-Washington Parkway rehabilitation significantly changed the parkway. The most noticeable change was the replacement of W-beam guardrails with precast concrete guardwalls designed to look like stone masonry. These guardwalls were used extensively along the length of the parkway. Other changes included the modification of parkway interchanges, with redesigned cloverleaves, longer ramps, and longer acceleration and deceleration lanes. Several bridges were replaced. The appearance of many bridges was transformed by adding artificial stone guardwalls to approaches, piers, abutments, and wingwalls. Mountable concrete curbs were installed over the length of the parkway, rather than being limited to the area nearest Washington D.C.

²⁵⁶ "Status of Baltimore-Washington Parkway Rehabilitation Projects," 2, 4.

²⁵⁷ National Park Service, News Release, July 5, 1995. "Baltimore-Washington Parkway Information" binder, Greenbelt Park records.

Despite the changes, the parkway retained the qualities that made it a unique contribution to American parkway design. The stone-faced abutments of the original bridges provided a faint echo of early twentieth century parkway design strategies. Landscaped roadsides together with a roadway alignment that followed the natural course of the topography also reflected the influence of earlier parkway design. In addition to traditional parkway features, the BWP incorporated more modern elements of highway design such as W-beam guardrails and streamlined-concrete bridges more typical of 1940s and 1950s construction. Although modeled on 1920s and 1930s parkways, the road was designed with more of an emphasis on safe and efficient high-speed traffic rather than on recreational motoring. As a result, the BWP combined traditional parkway principles with modern freeway features. Motorists were protected from intersecting traffic and buffered from unsightly developments by a broad tree-lined corridor, but design speeds were significantly higher than on recreational parkways and less attention was paid to traditional parkway aesthetics. Instead of undertaking an extensive planting program, parkway designers simply took advantage of existing woodland scenery and let the surrounding vegetation follow a more or less natural succession process. The contours of the mowed areas on either side of the parkway drive were varied more than on utilitarian highways and freeways, however, producing a more park-like effect. Since it was being designed and constructed just as America was about to embark on the development of the national interstate highway system, BWP provided federal highway engineers with an ideal opportunity to experiment with the adaptation of parkway principles to a whole new scale of road-building and regional planning. The wide medians, exceptionally gradual curvature, minimal grades, and systematic use of spiral transition curves would become hallmarks of modern high-speed road construction.

One obvious impact of the Baltimore-Washington Parkway would appear to be the dramatic growth experienced along its corridor. Residential subdivisions as well as private industry have developed along the route. While parkway promoters often touted the economic impact of parkways, this contention is difficult to support in the case of BWP. In several areas, pre-existing development was so already

widespread and substantial that parkway surveyors had difficulty finding a relatively clear path for the roadway.²⁵⁸ A 1962 George Washington University study determined that approximately half the area along the corridor was already developed in 1950, two years before the parkway's completion. While much of the additional growth in the vibrant Baltimore-Washington region would likely have occurred without the parkway's construction, researchers observed that the orientation of developments changed as a result of the parkway, shifting from the old roads to areas near the parkway interchanges.²⁵⁹

The presence of the federal government also grew substantially, though again, there was a considerable federal presence before the parkway was constructed. Government installations along the corridor prior to construction included Fort Meade, Beltsville Agricultural Research Center, Greenbelt, and the Patuxent Wildlife Research Center. NASA's Goddard Space Flight Center and the National Security Agency were located adjacent to the parkway, however, and the parkway helped make Greenbelt Park possible. The growth of new and existing federal installations along the parkway was a direct result of the improved access between the installations and the center of government in Washington.

Just as the parkway influenced regional growth, surrounding development also impacted the parkway. In recent decades, private industry and housing subdivisions located adjacent to the parkway have demonstrated that the BWP's seemingly generous right-of-way was an insufficient buffer from surrounding developments. Development along the BWP was increasingly more difficult to hide from the motorist's view, which was a significant feature of the parkway's design. Driving along the parkway in 2000, motorists saw housing subdivisions, high-rise office complexes and commercial activities at the interchanges, overhead power transmission wires, a water tower, commercial signs, and

²⁵⁸ Spelman, "Baltimore Parkway" memo to Thomas MacDonald, August 28, 1944, 4, 9. Also refer to section, "Debating the Issues: Alignment and Parkway Design."

²⁵⁹ Parkway Impact Study, (Washington, D.C.: The George Washington University, August 28, 1962).

BALTIMORE-WASHINGTON PARKWAY

HAER No. MD-129

(Page 140)

other structures that cannot be hidden from view. The water tower predated parkway construction, but many of these other intrusions appeared after the parkway was built. Government improvements in the BWP corridor have been carefully developed so that they are not visible from the parkway.

The reasons for building the parkway remained valid at the beginning of the twenty-first century. Even though William Ellicott's dream of a national forest was not realized, the parkway provided a strip of trees in a highly urbanized metropolitan area. It extended the Washington, D.C. parkway system just as Congress intended. The parkway continued to provide a dignified entrance to the national capital, although a dignified connection into the city itself was never realized. The parkway provided a safe, limited-access road for passenger traffic and greatly decreased the reliance on U.S. Route 1. It continued to connect federal agencies to Washington.

In spite of efforts to transform the parkway into an interstate, and the modernization of the 1990s rehabilitation, the Baltimore-Washington Parkway continued to maintain its parkway character and served the purposes for which it was constructed.

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BALTIMORE-WASHINGTON PARKWAY

HAER No. MD-129

(Page 145)

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